

Professional Language Learning and the Dynamics of Cross-Linguistic Interactions in Bilingual Mental Lexicon

Yuliya Leshchenko, Perm State Humanitarian Pedagogical University, Russia
Tatyana Ostapenko, Perm State Humanitarian Pedagogical University, Russia

The European Conference on Language Learning 2017
Official Conference Proceedings

Abstract

Bilingual professional language learning implies acquiring specific knowledge of two languages for professional purposes: those connected with language studies and/or language teaching. The most obvious outcome of bilingual professional language learning concerns the increase of proficiency in two languages revealed in a wide repertoire of linguistic knowledge, skills and abilities connected with speech perception and speech production. However, besides the outward changes, bilingual professional language learning also results in certain inward changes that concern particular processes at deeper levels of language storage and processing – those represented in one’s mental lexicon. In the paper we present an experimental research aimed at revealing how the two languages interact in bilingual mental lexicon in the context of professional learning of two languages. The research was carried out with Komi-Permyak-Russian native speakers who receive professional higher education as future teachers of both languages (Komi-Permyak and Russian); the methods of a sociolinguistic survey and of a psycholinguistic experiment were applied. Comparison of the experimental data received from junior and senior students proved that professional learning of two languages determines considerable changes in the character of cross-linguistic interactions. In particular, changes in general frequency of interactions, their direction and specific type were revealed. The obtained results are discussed within the frameworks of the current dynamic theory of bilingualism and bilingual mental lexicon.

Keywords: bilingualism, professional language learning, mental lexicon, cross-linguistic interactions, cross-linguistic influence.

iafor

The International Academic Forum
www.iafor.org

Introduction

Professional competence is most generally understood as “the generic, integrated and internalized capability to deliver sustainable effective (worthy) performance (including problem solving, realizing innovation and creating transformation) in a certain professional domain, job, role, organizational context, and task situation” (Mulder, 2014, p. 107). Professional competence includes a certain array of knowledge, skills and personal qualities necessary for effective realization of a concrete professional activity according to the existing standards (Birenbaum, 2003; Kane, 1992; Kunter et al., 2013; Roelofs & Sanders, 2007; Tigelaar & van Tartwijk, 2010).

The basic elements of professional competence of philology students include psychological, pedagogical, linguistic, linguodidactic, and communicative competencies. Linguistic competence has a major significance for professional linguistic competence formation. This competence is mainly based on developing individual linguistic consciousness and represents a set of linguistic knowledge about the system of a language and the abilities to use this knowledge in professional (language teaching) and scientific and research activity (Coseriu, 1985; Wiemann & Backlund, 1980; Wisniewska, 2015). Traditionally the following components are included into professional competence of philology students:

- acquisition of basic phonological, orthographic and lexical norms of the literary language;
- acquisition of basic grammatical categories and their forms;
- formation of the ability to construct syntactic structures in accordance with the norms of literary language;
- formation of the ability to use adequately the whole variety of stylistic resources of a language;
- formation of the ability to analyze and evaluate different linguistic facts and phenomena;
- etc.

Most researchers of professional linguistic competence of philology students study it in two aspects: 1) the monolingual competence which is formed while acquiring the profession of a teacher of the native language and literature (Akhmadullina, 2007; Sokolnitskaya, 2012) and 2) the bilingual competence formed in the situation of the so-called “classroom bilingualism” (sequential task-oriented foreign language learning) while acquiring the profession of the native and foreign language teacher (Dubrovina, 2011; Glumova, 2013; Ivanova, 2003).

As for the present study, it deals with professional linguistic competence of another type: a bilingual competence based on the situation of the so-called “native bilingualism” (simultaneous spontaneous acquisition of two languages in natural settings from early childhood). This competence is formed by way of getting higher education as a teacher of two native languages. The profession in question turns out to be in high demand in many regions of the Russian Federation, as many of its territories are characterized by the situation often referred to as the “ethnic – Russian” bilingualism: a combination of the ethnic language (Tartar, Mordovian, Chuvash, Buryat, etc.) and Russian as the state official language of the country. The present

study focuses on a particular case of “ethnic – Russian” bilingualism characteristic for the Komi-Permyak district situated in the north-west of the Perm Kray, Russia.

The Komi-Permyaks are representatives of the Finno-Ugrian national group; according to the data of the all-Russian census, the population of the Komi-Permyak district amounts to 80 300 people; they have their own national language which exists both in oral and written forms. The Komi-Permyak and Russian languages are actively used on the territory of the Komi-Permyak district, though they are characterized by different functionality: Komi-Permyak represents the basic means of intra-familial and everyday communication while Russian functions as the main language of official communication. In the majority of cases the two languages (Komi-Permyak and Russian) are acquired in early childhood (most often their acquisition occurs simultaneously) in natural settings. Komi-Permyak and Russian are frequently used in educational environment: teaching in primary school is realized by means of both languages; in secondary/high school the majority of academic subjects are taught in Russian while Komi-Permyak is studied as a special subject. Those Komi-Permyaks who wish to get higher education with a specialization as teachers of both Komi-Permyak and Russian languages are trained at the Komi-Permyak department of the Philological Faculty of Perm State Humanitarian Pedagogical University.

According to the curriculum of the Komi-Permyak department the academic subjects taught in the Komi-Permyak and Russian languages are distributed approximately equally during the whole course of studies (5 years). All the subjects that refer to Finno-Ugrian studies, the Komi-Permyak language, the Komi-Permyak literature and folklore are taught in Komi-Permyak: “*The Komi-Permyak Language*”, “*The History of the Komi-Permyak Language*”, “*The Old Permian Language*”, “*Basic Grammar of the Komi-Permyak Language*”, “*Methods of Teaching the Komi-Permyak Language*”, “*The Komi-Permyak Literature*”, “*New Issues in the Komi-Permyak Literature*”, “*The History of the Komi-Permyak Literature*”, etc. The subjects that refer to the Russian language, Russian literature and folklore (“*the Grammar of the Russian Language*”, “*the History of the Russian Language*”, “*Modern Russian Language*”, “*Russian Literature*”, “*The History of the Russian Literature*”, “*Russian Literature for Children*”), as well as general linguistic subjects (“*Introduction into Linguistics*”, “*General Linguistics*”, “*Text Analysis*”, “*Theory and Practice of Lexicography*”, etc.) are taught in Russian. All the non-specialized subjects, such as “*History of Russia*”, “*Philosophy*”, “*Pedagogy*”, “*Age-Specific Psychology*”, are also taught in Russian. Therefore, on the one hand formation of professional bilingual linguistic competence of students of the Komi-Permyak department is characterized by approximately equal usage frequency of the two languages; on the other hand in the academic situation in general the predominance of the Russian language usage frequency is observed.

As long as formation of professional linguistic competence of Komi-Permyak bilinguals is characterized by regular alternate usage of the two languages, it is obvious that during the whole period of studies both languages are in close contact with each other which leads to their active interaction in the learners’ mental lexicon. At the same time, consecutive advance in studies followed by the increase of proficiency in the two languages can lead to certain changes in the character of these interactions. Therefore, the goal of our research was to reveal the influence of

professional competence formation on cross-linguistic interactions in bilingual mental lexicon.

Subject, Material and Method of the Research

The *subject* of the research is professional bilingual Komi-Permyak - Russian linguistic competence; the *methods* of sociolinguistic survey and of free associative experiment were used. While processing the research data methods of quantitative analysis were applied; the following parameters were taken into consideration: the dynamics of usage frequency of the Komi-Permyak and Russian languages, the activity of cross-linguistic interactions, the changes in their types at the background of the whole period of professional linguistic competence formation. The *participants* were 68 students of the Komi-Permyak - Russian department of the philological faculty at Perm State Humanitarian Pedagogical University: 35 junior students (the initial stage of professional bilingual competence formation) and 33 senior students (the advanced stage of professional bilingual competence formation).

At *the first stage* of the research we carried out a sociolinguistic survey that enabled to reveal and compare some peculiar features of acquisition of the Komi-Permyak and Russian languages by the research participants; the usage frequency of the two languages in everyday and academic communication was also dealt with. During the survey the participants received a list of 20 questions which ran as follows:

1. What language is the native one for you and for each of your parents?
 2. What language do you use at home while speaking to your father and mother?
 3. What language do you use while speaking to your group mates at university?
 4. When did you start speaking the Komi-Permyak language?
 5. When did you start speaking the Russian language?
 6. What language did you speak in the kindergarten?
 7. When did you start studying Komi-Permyak at school?
 8. When did you start studying Russian at school?
 9. What language do you use more often and in what situations?
 10. What language do you hear more often and in what situations?
- Etc... .

As a result we got and further analyzed 1360 answers from both group of participants.

The analysis of the survey results demonstrated that 70% of the participants acquired the Komi-Permyak and Russian languages simultaneously in early childhood. The other 30% acquired the two languages consecutively: 26% acquired the Komi-Permyak language from early childhood; further on, and at the age of 3, they began acquiring Russian. Only 4% of the participants began task-oriented acquisition of the Russian language at primary school at the age of 7. Therefore, 96% of our informants turned out to be native bilinguals who acquired the two languages in pre-school age in natural language environment. Only these informants participated in the next stage of our research.

At *the second stage* of the research the two groups of participants (junior students and senior students) took part in the free associative test with Komi-Permyak and Russian stimuli. During the test the informants were given a list of 54 high frequency words

presented at random: *friend, think, picture, usually, man, go, big, name, girl, time, listen, summer, know, work, famous, weather, come, easy, morning, world, speak, dictionary, boy, quickly, example, over, book, do, day, give, house, study, street, begin, woman, understand, read, new, sentence, like, evening, teacher, small, take, page, good, family, student, paper, language, word, have*. While fulfilling the experimental task the participants had to produce to each stimulus a reaction word that first occurred to them; the language of the reaction word was not specified. The test was carried out twice: first with the stimuli in Komi-Permyak (*ерт, думайтны, морт, мунны, ыджыт, ним, нывкаок, пора, кывзыны, гожум, удж, тӧдны, уналӧ тӧдса, погоддя, вовлыны, кокнита, асыв, югыт, баитны, кывчукӧр, зоночка, чожа, мыччалӧм, чайтны, сайын, небӧг, керны, сетаवны, керку, велӧтчины, ӧтӧр, пондӧтны, инька, вержӧртны, дыддӧтны, виль, серникузя, любитны, рыт, велотись, учӧтик, босътны, листбок, бур, кыв, лун, имейтны*) and, secondly, with the identical stimuli in Russian (*друг, думать, картина, обычно, человек, идти, большой, имя, девочка, время, слушать, лето, знать, работа, знаменитый, погода, приходить, легко, утро, мир, говорить, словарь, мальчик, быстро, пример, полагать, через, книга, делать, день, давать, дом, учиться, улица, начинать, женщина, понимать, читать, новый, предложение, любить, вечер, учитель, маленький, брат, страница, хороший, семья, студент, бумага, брат, язык, слово, иметь*). The time lapse between the Komi-Permyak and Russian experiments was about two weeks. As a result of 4 experimental trials (two trials with stimuli in different languages for the group of junior students and two trials with stimuli in different languages for the group of senior students) over 6 000 reactions in different languages were received and further analyzed.

Results and Discussion

1. First *the usage frequency of the Komi-Permyak and Russian languages* as dependent on the stage of professional bilingual competence formation (initial or advanced) was analyzed (see Table 1).

Table 1: Usage frequency of the Komi-Permyak and Russian languages at the initial and advanced stages of professional bilingual competence formation.

	<i>Initial stage (junior students)</i>	<i>Advanced stage (senior students)</i>
<i>Komi-Permyak language</i>	33%	43%
<i>Russian language</i>	46%	22%
<i>Both languages</i>	21%	35%

The data presented in Table 1 demonstrate that the process of professional bilingual competence formation is followed by certain changes in the usage frequency of the Komi-Permyak and Russian languages. Thus, almost a half of the informants - junior students (46%) define Russian as the language used in communication most often. Evidently, such tendency can be explained by the fact that having moved to the city of Perm out of their native villages of the bilingual Komi-Permyak district and having entered the Perm university our informants get into the monolingual Russian-speaking environment. Therefore, except for the academic situation, they have to use Russian

as the only means of communication in common everyday situations: in shops, public transport, cafes, hostels, etc. As for the Komi-Permyak language, it is pointed at as the most frequently used one by about a third of the informants (33%). The main spheres of its usage are those of intra-familial communication, communication with friends and university group mates, as well as lessons of the Komi-Permyak language and literature. Moreover, despite the fact that the corresponding question of the survey unambiguously implied choosing only one most frequently used language (“Which *language* do you use most frequently?”), about one fifth of the informants (21%) could not restrict their choice by one language only and pointed at both Komi-Permyak and Russian as used with equal frequency. This fact proves that even at the initial stage of professional bilingual competence formation both languages exist in close contact in bilingual mental lexicon and actively compete with each other.

At the advanced stage of professional bilingual competence formation the total period of the informants’ living in the Russian-speaking environment increases more than twofold; consequently, the cumulative experience of the Russian language usage (both in academic situation and in everyday communication) begins to dominate significantly over the Komi-Permyak language usage. Nevertheless, at this stage Russian usage frequency decreases sharply (more than two times, down to 26%); along with it the increase of Komi-Permyak usage frequency (up to 43%), as well as that of both languages’ usage frequency (up to 35%) is observed. We assume, that such dynamics can be explained by two main factors. On the one hand, professional bilingual competence formation as related to the Komi-Permyak language implies elaboration of the ethnic self-consciousness which is manifested in raising the status of the national language and amending the emotional and evaluative attitude to it. Consequently, Komi-Permyak speakers tend to use their native language more actively and with greater relish. On the other hand, simultaneous study of the two languages as academic subjects stipulates constant juxtaposition of the two linguistic systems, profound analysis and active comparison of various facts and phenomena characteristic for them and, therefore, intensifies the habit of their concurrent use and constant overlap (Dotsenko et al., 2013).

2. Secondly, characteristic features of *cross-linguistic interactions* of the Komi-Permyak and Russian languages as dependent on professional bilingual competence formation were analyzed. For this analysis the material of free associative tests with Komi-Permyak and Russian stimuli were used. The unit of the analysis is an associative-verbal pair: a word-stimulus and its verbal reaction. All associative-verbal pairs were divided into two main groups: intra-lingual pairs (a word-stimulus and a word-reaction belong to the same language) and inter-lingual pairs (a word-stimulus and a word-reaction belong to different languages). We assume that inter-lingual associative-verbal pairs demonstrate activation of the mechanism of cross-linguistic interactions in the informants’ mental lexicon; in this context each inter-lingual “stimulus-reaction” pair represents certain specific features (direction and type) of cross-linguistic interactions. All the inter-lingual associative-verbal pairs received from two groups of informants were analyzed with regard to their quantitative and qualitative characteristics and further compared. This enabled us to reveal the dynamics of cross-linguistic interactions (that of their frequency and specific type) that characterize professional bilingual competence formation.

2.1. *Frequency of cross-linguistic interactions* in mental lexicon of the Komi-Permyak -Russian bilingual students at different stages of their professional competence formation. General frequency of inter-lingual and intra-lingual associative reactions received in the experiment is presented in Table 2.

Table 2: The quantity of inter-lingual and intra-lingual reactions for the Komi-Permyak and Russian stimuli.

	<i>Initial stage</i>		<i>Advanced stage</i>	
	<i>Intra-lingual</i>	<i>Inter-lingual</i>	<i>Intra-lingual</i>	<i>Inter-lingual</i>
<i>Komi-Permyak stimuli</i>	52%	48%	53%	47%
<i>Russian stimuli</i>	95%	5%	82%	18%

As is shown by the data of Table, at the initial stage of professional bilingual competence formation the participants prefer to produce intra-lingual associative reactions for both Komi-Permyak and Russian stimuli. The quantity of intra-lingual associative-verbal pairs is especially numerous for the Russian stimuli (95%): e.g., *семья*/'family' → *дружная*/'friendly'; *приходить*/'come' → *вовремя*/'in time'. As for the Komi-Permyak stimuli, they evoke intra-lingual reactions a little more than in one-half of all the cases (52%): *бур*/'good' → *удж*/'work'; *асыв*/'morning' → *кӧдззыт*/'cold'; *босьтны*/'take' → *сӕян*/'food'.

Such predominance of intra-lingual reactions for the Russian stimuli demonstrates that, while speaking Russian, Komi-Permyak - Russian bilinguals prefer to remain within the frames of this language only. In other words, the Russian language system in their mental lexicon is characterized by a relatively isolated position, possesses non-penetrable boundaries and, therefore, does not tend to interact with the Komi-Permyak language. On the contrary, the Komi-Permyak language seems to have highly penetrable boundaries: the Komi-Permyak words are freely included into the Russian associative contexts and, in this way, are interacting extensively with Russian words. This tendency correlates with the survey data which demonstrate that Russian is more frequently used by the Komi-Permyak - Russian bilingual students in their everyday communication. Obviously, the more functional language (Russian) dominates over the less functional one (Komi-Permyak) which is manifested in unidirectional character of cross-linguistic interactions: they are realized in the direction from the Komi-Permyak language to Russian language, but do not proceed in the reverse direction.

At the advanced stage of professional bilingual competence formation cross-linguistic interactions in the direction from Russian to the Komi-Permyak language become more frequent: the quantity of inter-lingual reactions produced for the Russian stimuli increases more than 3 times (from 5% to 18% respectively). This fact demonstrates that the mechanism of cross-linguistic interactions in relation to the dominant language (Russian) begins to shape and further develop in our informants' mental lexicon; as a result, the interactions acquire bi-directional character with the Russian language taking an active part.

2.2. *Types of cross-linguistic interactions* in mental lexicon of the Komi-Permyak - Russian bilingual students at different stages of their professional competence formation. Two main types of cross-linguistic interactions were singled out within the total array of the experimental material: interactions of translational and non-translational type.

2.2.1. Translational cross-linguistic interactions are based on actualization of translational associative links between pairs of words - cross-linguistic semantic equivalents, though the degree of equivalence in the “stimulus – reaction” pair can vary. The translational cross-linguistic associative pairs include the following varieties: 1) equivalent translational associations: e.g., *удж*/'work' → *работа*/'work'; *виль*/'new' → *новый*/'new'; *тӧдны*/'know' → *знать*/'know'; 2) rough translational associations: e.g., *чайтны*/'suppose' → *знать*/'know'; *кывчукӧр*/'dictionary' → *книга*/'book'; *уналӧ тӧдся*/'famous' → *знакомый*/'familiar'; 3) erratic translational associations: e.g., *чайтны*/'suppose' → *чай*/'tea'; *кывчукӧр*/'dictionary' → *стихотворение*/'poem'.

We suppose that, regardless of the degree of “correctness” of the translational reaction (how much the stimulus word corresponds to its cross-linguistic equivalent given in a bilingual dictionary), actualization of cross-linguistic translational links proves convergence of the two linguistic systems in bilingual consciousness which is based on mapping the two word forms from different languages onto the common meaning. Such mapping is realized by way of actualizing semantic word links, and forms the basis for cross-linguistic translation: a full switch from one linguistic system to another realized for the purposes of successive meaning conveyance. It appears that in this case both linguistic systems are realized by a bilingual individual as relatively independent from each other; they both seem to be represented collaterally within the common mental space and each of them is characterized by particular specific features of their units.

2.2.2. Non-translational cross-linguistic interactions are based on syntagmatic, paradigmatic, or thematic associative links between the words of the two languages.

Syntagmatic non-translational links are based on the speech combinatorial mechanism and represent linear expansion of the stimulus: *инька*/'woman' → *работает*/'works'; *пример*/'example' → *вайӧтны*/'give'; *бур*/'good' → *семья*/'family'; *виль*/'new' → *платье*/'dress'; *знаменитый*/'famous' → *морт*/'man'.

Paradigmatic non-translational links are based on the speech selection mechanism, reflect words' systematic properties and represent semantic similarity or opposition the stimulus and the reaction: *ыджыт*/'large' → *маленький*/'small'; *сетавны*/'give' → *брать*/'take', *пондӧтны*/'begin' → *закончить*/'finish'; *босьтны*/'take' → *дать*/'give'.

Thematic non-translational links are based on conceptual associations which refer the individual to the whole array of notions, images, feelings and emotions connected with a word. Such links represent the relations of the stimulus not with other verbal units, but with communicative situation itself, its space and time coordinates. Unlike paradigmatic (linguistic proper) links which reflect automatic operations of logical

thinking (categorization, unification, opposition), thematic (extra-linguistic) links represent frequent situational, objective, subjective and suchlike “illogical” links: *асыв/‘morning’* → будильник/‘alarm clock’; *веломісь/‘teacher’* → знания/‘knowledge’; *керны/‘do’* → руки/‘hands’.

In general, cross-linguistic non-translational links corroborate convergence of two linguistic systems in bilingual mental lexicon by means of matching their syntactic, systematic/categorical, and situational/cognitive properties. Such convergence serves as the basis for the code-switching mechanism understood as fluent frequent transfers between the two languages. These transfers are realized within the frames of the common communicative situation and imply conveying the meaning of the utterance by ways of the two languages alternately. We assume, that actualization of cross-linguistic non-translational associative links indicates a certain blending of two linguistic systems in bilingual mental lexicon. This blending results in large-scale comparison of words belonging to different languages, as well as extensive overlap and transfer of their semantic, syntactic and other linguistic properties. Therefore, it can be supposed that professional linguistic competence formation leads to emergence in bilingual mental lexicon of a mixed-language (blended) subsystem; within this subsystem the two languages do not coexist collaterally, but are to a great extent intermingled and, thus, can interchange freely in the context of any of the two languages.

Table 3: The quantity of cross-linguistic translational and non-translational interactions for the Komi-Permyak and Russian stimuli.

	<i>Initial stage</i>		<i>Advanced stage</i>	
	<i>Transl.</i>	<i>Non-transl.</i>	<i>Transl.</i>	<i>Non-transl.</i>
<i>Komi-Perm. stimuli</i>	57%	43%	33%	37%
<i>Russian stimuli</i>	90%	10%	78%	22%

The data presented in Table 3 demonstrate that at both the initial and the advanced stages of professional bilingual competence formation the quantity of translational interactions steadily dominates over the quantity of non-translational ones: the share of the former represents more than one-half among the total number of cross-linguistic interactions at each stage considered and for both languages. At the initial stage translational cross-linguistic interactions appear more often for the Russian stimuli (90%) in comparison with the Komi-Permyak stimuli (57%). Apparently, this proves that originally the Russian language is characterized by a greater degree of isolation in our informants’ mental lexicon as compared to the Komi-Permyak language. Komi-Permyak words are more actively embedded into the Russian associative environment which confirms that blending of the two languages occurs mostly in one direction: from the Komi-Permyak language to Russian.

At the advanced stage the quantity of translational cross-linguistic interactions is slightly increasing for the Komi-Permyak stimuli (63%) and, at the same time, is decreasing significantly for the Russian stimuli (78%). Such dynamics correlates with the usage frequency of the Russian and Komi-Permyak languages revealed by the

sociolinguistic survey described above. According to the survey data, professional linguistic competence formation is followed by a significant decrease of the Russian language usage frequency along with an increase of the Komi-Permyak language frequency, as well as that of alternative usage of both languages (see Table 1). Apparently, due to these changes the Russian language forfeits its isolated position in bilingual mental lexicon and, at the same time, opens its boundaries for active interactions with the Komi-Permyak language. Besides establishing one-to-one semantic correspondences (equivalent translations) to the Komi-Permyak words, Russian words tend to be embedded into the general Komi-Permyak associative context. As a result, the penetrative ability of the boundaries of the two languages becomes mutual which leads to bidirectional blending of the two languages: in the direction from Komi-Permyak to Russian, and back - from Russian to Komi-Permyak.

At the same time it should be noted that at the advanced stage of professional linguistic competence formation general alignment of the total ratio of translational and non-translational cross-linguistic reactions produced for the Komi-Permyak and Russian stimuli (63% and 78% of translational reactions and 37% and 22% of non-translational reactions respectively) is observed. This obviously shows that both languages start mutually influencing each other in bilingual mental lexicon, so that the degree of their relative isolation on the one hand, and the degree of penetrability of their boundaries on the other hand are gradually equalized.

2.3. *Cross-linguistic transfer* in mental lexicon of the Komi-Permyak - Russian bilingual students at different stages of their professional competence formation. Cross-linguistic transfer is usually defined as «covert use of linguistic structures from the other language without overt switching to that language» (Marian, 2009, p. 161). Cross-linguistic transfer often characterizes bilingual speech production and, thus, represents one of the most common types of cross-linguistic interactions. The roots of cross-linguistic transfer lie in a certain set of similarities and differences between the two interacting languages (Odlin, 1989).

In our experimental material cases of cross-linguistic transfer were represented by the so-called “blended” reactions which included a Russian root and the Komi-Permyak suffix: e.g., *лун* /‘day’ → *необычн^{ой}* /‘unusual’, *зоночка* /‘boy’ → *сильн^{ой}* /‘strong’, *бумага* /‘paper’ → *разноцветн^{ой}* /‘colourful’, *веломісь* /‘teacher’ → *умн^{ой}* /‘clerver’, *сёрникузя* /‘sentence’ → *сложн^{ой}* /‘difficult’. This type of cross-linguistic transfer is based on changes in the morphological structure of the proper Russian adjective: the native Russian adjective suffix **-ый** is changed for the native Kom-Permyak suffix **-ой**; both morphemes have the same grammatical characteristics and very close pronunciation in the two languages.

It appears that such combinations of the morphemes of the two languages into one lexical unit are not perceived by the participants as cases of cross-linguistic blending, but are treated as proper Komi-Permyak words belonging to the native stock. As for their frequency, the reactions of this type are not numerous and do not seem to depend on the advance of professional bilingual competence formation: the quantity of the “blended” words amounts to approximately 10% of the whole total of experimental reactions both at the initial and advanced stages of studies.

Conclusion

An experimental research with Komi-Permyak-Russian bilingual university students carried out at the initial and advanced stages of their professional competence formation was aimed at revealing the dynamics of cross-linguistic interactions in their mental lexicon.

The results of the research show that simultaneous progress in both languages' proficiency leads to significant changes in the informants' speech behavior, as well as in the nature of cross-linguistic interactions in their mental lexicon. The dynamics revealed concerns the three main factors: 1) usage frequency of the Komi-Permyak and Russian languages by bilingual speakers; 2) general frequency and direction of cross-linguistic interactions; 3) the proportion of translational and non-translational interactions.

Changes in the usage frequency of the Komi-Permyak and Russian languages is manifested in the fact that senior Komi-Permyak - Russian students start using both languages in communication more often as compared to junior students. On the one hand, this is obviously connected with active elaboration of the informants' national self-identity which results in uplifting of their national language status: it begins to function as a fully-fledged communicative means on equal terms with the Russian language. On the other hand, such tendency is also stipulated by professionally oriented bilingual educational context: both linguistic systems are subject to extensive juxtaposition, mapping and comparison which lead to strengthening of their ability to interchange in various communicative contexts.

Changes in general frequency and direction of cross-linguistic interactions in bilingual Komi-Permyak - Russian mental lexicon are revealed in the increase of the total quantity of inter-lingual reactions, as well as in active formation of bi-directional associative routes between words of the two languages (from Komi-Permyak to Russian and backwards, from Russian to Komi-Permyak).

Changes in the proportion of translational and non-translational interactions prove that along with professional competence formation the two languages in bilingual mental lexicon start mutually influencing each other and, as a result, gradually develop a higher level of resemblance. This is manifested in balancing the degree of their relative isolation in the lexicon, as well as the degree of penetrability of their boundaries. A steady tendency of cross-linguistic transfer (mostly unperceived by the speakers) may function as one of the possible grounds for activating mutual influence of the two languages.

Acknowledgements

The authors would like to thank all the informants who took part in the research, as well as the Russian Humanitarian Scientific Fund (RHF) for financial support, project № 15-04-00320.

References

- Akhmadullina, F.Y. (2007). Formation of methodic competence of a future teacher of linguistics. *TGGPU Herald*, 1(8), 97-120. (in Russian).
- Birenbaum, M. (2003). New insights into learning and teaching and their implications for assessment. In: M. Segers, F. Dochy, & E. Cascallar (Eds.), *Optimising new modes of assessment: In search of qualities and standards* (pp. 13–36). Dordrecht, The Netherlands: Kluwer Academic Publishers.
- Coseriu, E. (1985). Linguistic competence: what is it really? *The Modern Language Review*, 80, 25 – 35.
- Dotsenko, T.I., Leschenko, Y.E., Ostapenko, T.S. (2013). Code-switching as language interaction by combined bilinguals against their professional competence formation background. *Journal of psycholinguistics*, 2(18), 78-89. (in Russian).
- Dubrovina, T.S. (2011). About professional competence of future teachers of foreign languages. *A young scientist*, 4(27), 86-89. (in Russian).
- Glumova, E.P. (2013). Theory and practice of educating future teachers of foreign languages. *Irkutsk State Pedagogical University Herald*, 3(24), 225-230. (in Russian).
- Ivanova, L.F. (2003). Professional competence of a foreign language teacher: Integrative approach. *Integration of education*, 3, 90-97. (in Russian).
- Kane, M. T. (1992). The assessment of professional competence. *Evaluation & the Health Professions*, 15(2), 163–182.
- Kunter M., Klusmann U., Baumert J., Hachfeld A. (2013). Professional Competence of Teachers: Effects on Instructional Quality and Student Development: https://www.researchgate.net/publication/257326797_Professional_Competence_of_Teachers_Effects_on_Instructional_Quality_and_Student_Development
- Marian, V. (2009). Language interaction as a window into bilingual cognitive architecture. In: V. Marian (Ed.), *Multidisciplinary Approaches to Code-Switching*. (41, pp. 161-185). Amsterdam.
- Mulder, M. (2014). Conceptions of Professional Competence. In: S. Billett, C. Harteis, H. Gruber (Eds), *International Handbook of Research in Professional and Practice-based Learning*. (pp. 107-137). Dordrecht: Springer.
- Odlin, T. (1989). *Language transfer*. Cambridge: Cambridge University Press.
- Roelofs, E., & Sanders, P. (2007). Towards a framework for assessing teacher competence. *European Journal for Vocational Training*, 40 (1), 123–139.
- Sokolnitskaya, T.N. (2012). On methodic competence of a Russian language teacher. *Person and education*, 2 (31), 162 - 165. (in Russian).

Tigelaar, D. E. H., & van Tartwijk, J. (2010). The evaluation of prospective teachers in teacher education. In: P. Peterson, E. Baker, & B. McGaw (Eds.), *International encyclopedia of education* (Vol. 7, pp. 511–517). Oxford: Elsevier.

Wiemann, J. M. & Backlund, P. (1980). Current theory and research in communicative competence. *Review of Educational Research*, 50(1), 185-199.

Wisniewska, H. (2015). Communicative Competence in Professional Discourse. *Linguistics and Literature Studies*, 3(2), 50-57.

Contact email: naps536@mail.ru