UDC 81'33, 81'34 УДК 81'33, 81'34

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CHALLENGES OF TEACHING SPEECH PRODUCTION AND SPEECH PERCEPTION FOR RUSSIAN LEARNERS OF ENGLISH: PHONETIC ISSUES THAT REALLY MATTER ПРОБЛЕМЫ ОБУЧЕНИЯ РЕЧЕПРОИЗВОДСТВУ И РЕЧЕВОСПРИЯТИЮ НА АНГЛИЙСКОМ ЯЗЫКЕ РУССКИХ СТУДЕНТОВ: ФОНЕТИЧЕСКИЕ АСПЕКТЫ, КОТОРЫЕ ДЕЙСТВИТЕЛЬНО ИМЕЮТ ЗНАЧЕНИЕ

Abstract

The current article presents some critical thoughts concerning the popularized phenomenon of World Englishes. The significance of adequate perceiving and producing English speech for certain areas of international communication including the issue of international safety is stressed. Allophonic variation (aspirated and weak voiceless stops, taps, glottalization, assibilation) and omission patterns common for native English speakers but mostly ignored by teachers of English are observed. Challenges for English speech perception connected with those patterns are viewed, some techniques for practicing them in the classroom for Russian learners of English are shared.

Аннотация

В настоящей статье представлены критические замечания относительно популяризации акцентных национально-региональных вариантов английского языка. Подчёркивается важность адекватного восприятия и производства речи на английском языке в определённых сферах международного общения, включая ряд вопросов международной безопасности. Обозреваются модели аллофонного варьирования (придыхательные и слабые глухие, одноударные, глоттализованные аллофоны, явление ассибиляции) и случаи эллиптирования звуков типичные и частотные для речи носителей английского языка, которые в своём большинстве игнорируются в методике преподавания. Рассматриваются проблемы восприятия, связанные с указанными моделями, предлагаются технологии тренировки этих моделей в ходе аудиторных занятий с русскими студентами.

Keywords: World Englishes, international safety, allophonic variation patterns.

Ключевые слова: национально-региональные варианты английского языка, международная безопасность, модели аллофонного варьирования.

1. Introduction

Genesis 11:1-9

New International Version (NIV)

«Now the whole world had one language and a common speech... 6 The Lord said, "If as one people speaking the same language ... then nothing they plan to do will be impossible for them. 7 Come, let us go down and confuse their language so they will not understand each other."» [BibleGateway].

I chose these quotes from the Holy Bible as an epigraph for the current article for I shall join the army of linguists who speak about English as lingua franca.

Since those ancient times there are many languages in the world each of them having their unique sound systems that have either phonemes or syllables as minimal phonological units. Sound systems of languages like English, Russian, German, French etc. are composed of different number of phonemes – consonants and vowels. Let us take for instance 6 vowels in Russian vs 19 in American English (further referred to as L2), 36 consonants in Russian vs 24 in L2. Phonemes in different languages are characterized by different phonologically relevant features and different integral features that might be crucial for speech perception.

Each spoken language has its own unique patterns of allophonic variation which are in general rather complicated. The English language is not an exception to that. As far as English has been used as lingua franca for quite a long period of time by native speakers of many other languages (further referred to as L1), there is and always will be the temptation to simplify those patterns and even encourage massive infiltration of L1 coloring. Simplification might be beneficial for L2 acquisition unless it goes to a wrong direction or unless there is too much of it. According to A. Cruttenden, any simplified form of pronunciation model should have three requisites [Cruttenden, 2001, p. 309]:

- (1) It should be at least as easy, and preferably easier for the foreign student to learn as any natural model.
 - (2) It should be readily intelligible to most native speakers of English
- (3) It should provide a base for the learner who has acquired it to understand the major natural varieties of English.

Unfortunately when we think about good English pronunciation it has mainly aesthetic implication for us. I consider such a view very myopic. I argue that everybody involved in using English as lingua franca should ensure that, first, his or her L2 speech is easy to understand by other participants of a speech act and, second, that he or she is comfortable with understanding other participants' speech. These things deal with effectiveness, success and in certain instances — with people's safety. Perfect examples can be given from airline industry.

2. Challenges of World Englishes: international safety

2.1. L1-negative-effect horror stories

The issue of international safety connected with English as lingua franca is not new (see e.g. David Crystal writing about sea traffic and air traffic safety [Crystal, 2001, p. 97–100]).

We all heard about incidents in airports involving pilots and controllers. Sometimes it can seem just funny afterwards, like in Air China "talks" to JFK Ground [Air China ...] or like in Swiss Airbus Bird Strike [Air traffic ...] where fortunately nobody was hurt. However there is hardly any humorous implication in the events like the ones that happened on the 27th of March in 1977 on the runway of Los Rodeos Airport where the deadliest accident in aviation history with a total of 583 fatalities happened. The investigation specified that one of the reasons was misunderstandings between the flight crew of the Dutch plane and the Spanish air traffic controller [Tenerife ...] each speaking their own version of the World Englishes.

When I ask many of my American friends using Russian airlines how much of English speech of Russian pilots and flight attendants they understand the answer is – nothing. Therefore, they even do not pay attention when they start speaking and treat it like background noise. Personally I, knowing all the peculiarities of Russian-English interaction for Russian learners of English, can hardly understand it.

Things like the ones mentioned above should make a sober person say: I am no advocate of the World Englishes at least in certain spheres.

2.2. Looking for ways out

As far as the airline industry is concerned, there are three options to deal with the current situation and provide people's safety.

The first one is to learn just one of many World Englishes and specializes only in flights to that particular country. It is costly but possible for a number of wealthy countries and impossible for poor countries.

The second is to prepare pilots with several PhDs in linguistics and cross-language studies and perfect skills of speaking and understanding all World Englishes. I think it can hardly ever be accomplished. Although pilots and flight attendants are undoubtedly smart people, it seems that they will spend all their time in language training and will have no time to learn how to fly a plane.

The third one is to have a professional interpreter from one World English to another. It seems to be a possible way out. However, if we choose that option, a reasonable question arises: Why do we need ligua franca that does not perform its main function?

3. Russian English is a way to express self-identity?

3.1. Devaluation of English as lingua franca

David Crystal in his book «English as a Global Language» demonstrated a remarkably diverse range of varieties of English in non-native settings that can be found in the World: Europe, Asia, Africa, the Caribbean, the Pacific [Crystal, 2001, p. 35–63]. The number of those varieties is not easy to estimate. Many of them, if not all, sound differently depending on phonemic and allophonic patterns of their L1s. The logical question is: How can international safety during traffic control be provided under such circumstances? The only logical way is to drastically limit the amount of Englishes promoted in educational institutions at

least to the amount of native ones: British English (=BE), American English (=AE), Canadian English (=CE), Australian English (=AusE). It appears logical that the value of English as lingua franca is in its unification. Encouraging nonnative varieties is the way to L2 devaluation and ultimately – to its abandoning.

3.2. Reasons for World Englishes growing popularity

I have my own thoughts concerning the reasons for growing popularity of phenomena like Russian English as a way to express self-identity. I think the first reason is connected with the situation described by David Crystal from the words of the people of Kenya [Crystal, 2001, p. 114–115]. People in such countries were forced to use English within their own country in daily communication, while getting education, in court etc. I think it is unacceptable. These functions should be performed by mother tongue or tongues like it is done in China (Mandarin Chinese) or India (Hindi) – states with many languages. English might be an option but not at the cost of displacing the dominating mother tongue. Any mother tongue must be treated with great respect. Russian people's self-identity is expressed when they speak their native language in their native environment and are proud of it.

The other side of the medal is that at the same time any foreign language must be treated with great respect. Distorting a language is showing disrespect. English for Russian, German, Chines people etc is a foreign language and, keeping in mind its lingua franca status, native patterns of pronunciation should be treated with great respect and should be a model to follow.

The second reason for growing popularity of such language formations as Russian English has nothing to do with speaker's self-identity. It deals with hopelessness that appears as the result of traditional method of teaching pronunciation based on teachers' personal preferences and ideas about what native models should look like.

The story runs as follows. Diligent motivated students are taught laboratory speech that is unnaturally accurate, the speech that they will hardly come across in real communication. Students work hard, succeed in mastering this type of speech, feel happy about it and then when it comes to real communication they understand that they do not understand a great part of speech samples produced by native speakers. Things that they expect to hear and things that they actually hear vary enormously. At times the gap is incredibly large. Therefore the only thought that might come to their mind is: What a lot of wasted time! If the result is that poor why bother with pronunciation? Let us make our Russian (or Chinese etc.) accent a matter of our self-identity, of our national pride.

When we cultivate such things as the Russian variety of English, Russian learners, as probably many other learners of English, are even more frustrated because of the phenomenon of even greater defeated expectancy. They do not feel any national pride, they feel helplessness and embarrassment. Their failed attempts to explain what they need at cafes, hotels, airports etc and their disability to adequately understand what they are told in response have already

become anecdotes. It is a vicious cycle and it is urgent to change traditional method and to start concentrating on phonetic issues that really matter.

4. Phonemic and allophonic issues that really matter for Russian learners

Phonemic models of English are generally successfully acquired by Russian learners. There is only one phonemic issue of English where simplification took an absolutely wrong direction – long and short vowels. This opposition is global for the English system of sounds. However, it is still misunderstood by the vast majority of Russian secondary school teachers and a great number of university teachers of English and is very often viewed as the one based on purely duration differences. It surely comes from the misleading traditional name of the opposition of «long and short vowels». The opposition of long and short vowels in terms of manipulations with vowel duration disappeared in the XV century (see more about that in [Pinker, 1994, p. 164]). Therefore what is the use of fighting like it is life or death for something that has been dead for more than five centuries?

According to H. Kurath, differences in quality are enough to distinguish vowels in pairs like lid-lead [Kurath, 1964, p. 17–18]. Changing vowel duration can not change the meaning of the word [Language Files, 1998, p. 91; Stack et al., 2006, p. 2404]. Why make Russian learners of English suffer trying to force them into contrasting the words mentioned above by manipulating with duration that is nonexistent in English and unnatural for Russian? We should better concentrate on articulatory differences in terms of more / less advanced or retracted (vowel backness) and more / less close or open (vowels height) and their acoustic effects – the ones that really matter for modern English and are natural and understandable for Russian learners of L2. Of course, we need to be more sophisticated in moving the tongue vertically and horizontally and to manipulate the lips configuration in order to contrast 19 English vowels vs 6 Russian ones. It is crucial both for adequate speech production and, through it, for speech perception. My 17-year experience in teaching English tells that 80–90% of students who are deliberately and consistently trained in the aspect become real experts in it. However, it is only a part of the story.

Unfortunately we rarely go further than phonemic models. That is why a giant leap to allophonic models has to be made right from the start. Allophonic models of English words should include many important and frequently used by the majority of native speakers phonetic phenomena. I insist on drilling them in the classroom even in terms of ridiculously limited time given for English to students of non-linguistic departments (2–3 hours a week). The phenomena that I encourage my students to work with at my English classes and during their homework in terms of acquiring adequate pronunciation and listening skills are given below.

4.1. Aspiration+ vs aspiration-

Aspirated vs weak voiceless allophones of fortis /p/, /t/, /k/ which choice is determined by surrounding phonemes, a word-stress pattern, and prosodic prominence of a segment in the utterance are in the list of English-as-L2 challenges.

Russian children are trained to produce aspiration since secondary school to the end of their university English Course. As a result there are two extremes with Russian students concerning aspiration: some students do not aspirate anywhere, other students aspirate everywhere being especially enthusiastic word-finally and in after-s positions (e. g. that, stamp). Table 1 demonstrates important aspiration / no aspiration patterns that are often ignored by Russian teachers and consequently – by Russian students.

Table 1. Important but often ignored aspiration / no aspiration patterns

Aspiration (+)	Aspiration (-)
Pepper (word-stress factor - stressed vowel after)	Pepper (word-stress factor - unstressed vowel after)
how to say no to a ''peer (prosodic prominence)	p eer pressure (no prosodic prominence)
Press (before approximants)	Up (word finally)
	speak (after fricative consonants)
! No aspiration here = foreign accent	! Aspiration here = foreign accent

Thus, not to aspirate the consonant before a stressed vowel in words like palm, call, team is a big crime while not to aspirate the same consonants before unstressed vowel in words like pepper, liking, photo¹ or word-finally in get, look, tip is a common thing for all native speakers of English. Therefore it should be practices by all learners of English.

An important additional note should be made about practicing aspiration patterns. Teaching p- and k-aspiration is different from teaching t-aspiration the former two being breathing-out-like glottal light noise (classical aspiration) while the latter presenting rather strong apical-alveolar friction accompanied by classical aspiration only before open vowels. While +h technique works well for labial and velar aspirated stops, front-friction technique proves effective for the apical-alveolar one. Viewing p-/k-aspiration and t-aspiration separately is much more beneficial for adequate perceiving the flow of English native speech than viewing them in one category. Without that separation the phonetic shape of even such simple words as *Italian*, that students are surely familiar with, can present a challenge at a listening class.

4.2.Taps

Another group of challenges that L2-learners encounter are taps (see more about taps / flaps in [Kurath, 1964, p. 41; Janicki, 1977, p. 35; Wolfram, Johnson, 1982, p. 19–20; Laver, 1994, p. 61; Ladefoged, 1996, p. 231;

 $^{^{\}rm 1}$ Here taps / flaps are used mostly in American and Canadian English, quite often – in Australian English.

Language Files..., 1998, p. 35; Fabricius, 2000, p. 85; Cruttenden, 2001, p. 164; Greenberg etal., 2002, p. 39; Broadbent, 2008, p. 148–151; Odden, 2008, p. 47–48]) that stand for /t/ and /d/ in a number of positions with the reference to word stress and phonemic surrounding both in individual words and on word boundaries. Table 2 shows the positions in which our students are trained to tap.

within a word	on the word boundary
1) in V1CV2, 'V1CV2 (AE, CE, AusE), where V1 and/or V2 can be rhotic (AE, CE): putting, pudding, photo, party, harder	1) in V1CV2 no matter the stress pattern (BE, AE, CE, AusE), where V1 and/ or V2 can be rhotic (AE, CE): put it in, at all, had a, sort of
2) before syllabic /l/ (AE, CE): little, middle	

T a b 1 e 2. **Tap for -t-/-tt-, -d-/-dd-**

For most Russian L2-learners (from 80 to 90%) Russian r-vibrant technique proves the most effective as far as tapping is quite a frequent pattern of Russian /r/. Some student attempt to use American retroflex gliding [x]. For those Russian students quick-d technique proves more efficient. The technique comes from the proven fact that in AE tapped /t/ and tapped /d/ are pronounced alike (see e.g. W. Labov's examples of *ladder* and *latter* [Labov, 1994, p. 357]). Word-pairs like these have already moved to the category of spelling-demons and joined the ones mentioned by W. Labov like *whale* and *wail*, *mourning* and *morning* that used to be different in pronunciation but now are fossilized evidence of language changes [Labov, 2001, p. 5].

4.3. Glottalized plosives

They occur under a number of linguistic and extralinguistic circumstances including consonant clusters, pauses and their types, informative value of a segment [Cruttenden, 2001, p. 159; Fabricius, 2000, p. 82–83; Firth, 1957, p. 60; Laver, 1994, p. 171]. Being very frequent in BE, AE, CE, AuE speech they can be a serious problem for the untrained L2-learner's ear and mouth.

Below I give three types of glottalized stops that I practice with my students in the classroom.

- implosive (pressing the canonical articulators but giving no audible release): for all stops a) before a pause: ... *don't get it*, b) for labial and velar stops before stops and fricatives: *up to, big for*, c) for /t/ and /d/ before stops and fricatives of the same articulator: *it does, would tell*;
- glottal stop (pressing the vocal folds without pressing the canonical articulators and giving no audible release): for /t/ before stops or fricatives of a different articulator: *at first, that called*;
- glottal burst (pressing the vocal folds without pressing the canonical articulators and giving audible release produced by vocal folds): t+sonorant: certain, at least, definitely, but we etc.

In the classroom the first two can be simplified to the stop-and-go-to-the-next-segment technique, for the third one forceful beginning of the following sonorant instead of canonical /t/ works well (it is understandable for Russians because we have the same phonetic phenomenon for word-initial vowels after pauses).

4.4. Assibilation

Types of changes like $/t/\rightarrow/tf/$, $/d/\rightarrow/dz/$, $/s/\rightarrow/f/$, $/z/\rightarrow/z/$ are determined by the following palatal /j/ presence in individual words like education, Christian etc., and on word boundaries in cases like $di\underline{d}$ you, \underline{d} uring, $go\underline{t}$ you, unless you, as you know etc. They are often considered Americanisms. However, as far as the first two types, it is hard to say whether they are more frequent in modern BE or AE – both abound in various examples. Such sound changes can challenge the inexperienced ear and become an obstacle to adequate perception.

4.5. Vowel quality reduction

When all stressed vowels are practiced and vowel oppositions are adequately formed in citation forms it is time to turn to typical patterns of vowel quality reduction. They depend much on neighboring consonants as well as vowels of surrounding syllables. How many of us – English teachers – have any idea that American people use i-like vowel in the first syllable of the word *McDonald's*?

At this point we have come to the Schwa-sound concept praised by many but having little practical value when it comes to drilling it. Positions in which schwa can occur can be demonstrated in the following exercise (read by a native speaker of standard AE) that can be used in the classroom (all words in citation forms).

Exercise 37. /ə/

<u>again; above; assault; appeal; advance; conduct; convince; connect; fauna; second; pizza; octopus; customs; banana; Texas; Alaska</u>

There is no sense in demonstrating schwa in isolation so I never do it. I ask my students to listen to the word and then to the segment from that word where schwa occurred (e.g. [əg] for \underline{again}). From the very first attempt to listen and imitate students notice that many of the underlined schwas differ from each other. At this point we do the grouping together during which students imitate and offer transcription signs. It is obvious for the learners that e. g. the words \underline{again} ; \underline{above} ; $\underline{assault}$; \underline{appeal} ; \underline{fauna} ; \underline{pizza} ; \underline{banana} ; \underline{Alaska} contain [Λ]-like unstressed vowel, the word \underline{Texas} contains [I]-like one and from the words $\underline{conduct}$, $\underline{convince}$, $\underline{connect}$, \underline{second} , $\underline{customs}$ the schwa-sound is omitted. While grouping we explain the conditions and give more examples. We demonstrate that word-initially and word-finally [Λ]-like schwas are typical, in [t, d, s, z, \int , \int , \int , \int , \int , \int , \int surrounding or in C1VC2 where C2 is $\frac{k}{\sigma}$ or $\frac{g}{I}$ -like ones occur, in a number of suffixes like $\underline{-ment}$, $\underline{-ent}$, $\underline{-ance}$ etc and in unstressed words like \underline{and} , \underline{as} , \underline{can} , \underline{had} etc [$\underline{\epsilon}$]-like schwa appears, in -ful suffix and in

other instances with the dark /l/ following the unstressed vowel [v]-like schwa feels fine, and from C1VC2 schwa most willingly runs away if C1 is a stop and C2 is a sonorant. This type of learning turns out to be much more effective than the traditional one. As a result students have much less difficulty in recognizing those words in the flow of speech.

4.6. Omissions

There is always a number of typical omissions instances in every language. In English we single out the omissions of consonants /d/, /t/, /h/ etc and vowels (unstressed ones in fast and even slow speaking) in weak forms of functional and notional words like *and*, *hundred*, *don't*, *first*, *get him* / *her* / *them*, *many of them*, *family*, *correct* etc. Students are encouraged to practice them in the appropriate context maintaining faster tempo (as it naturally happens).

Points 2–6 are not traditionally mentioned although they are very frequent in connected speech. Most Russian students have no idea of them because most Russian teachers especially at secondary schools are biased against them considering those commonly used patterns the elements of some wrong English. Therefore, learners never practice them in the classroom and at times are even penalized with worse grades for taking the initiative to use them. Traditionalists are not just fighting the losing battle, as W. Labov puts it [Labov, 2001, p. 4], but making many students completely lose their incentive to study L2.

Series of taps, glottalization, vowel and consonant omissions abundant in the flow of English speech make Russian students get the shock of their lives because they do not recognize the words that they think they know. They do not recognize simple grouping of words like take a quote and put it in my because of a glottal burst, 2 omissions and 2 taps, or 2 words like out and because of 2 omissions and a glottal burst. Even worse – they can not recognize the name of one of the oceans – the Atlantic one – because of the first t-glottalizing and the second t-omission. They can not recognize the name of one of recent American ex-presidents – (Bill) Clinton – because of the last vowel omission and the previous t-glottalization. On top of that Russian students do not recognize the surname of our president pronounced by American speakers – Putin – because of the second vowel omission resulting in [tn] lesion and t-glottalizing that follows it.

Somebody might say «What a shame!». But the problem is that our good, smart, diligent students were not taught to say, hear and perceive those things. What is the ultimate good of teaching exclusively canonical pronunciation (laboratory controlled speech) and ignoring the phonetic patterns that really matter if the result is so poor?

5. Conclusion

It is clear that there is no turning back to traditional methods of teaching pronunciation and listening skills. However the new ideas concerning such formations like Russian English, Chinese English etc can hardly be justified. The effectiveness of English as lingua franca runs counter numerous World Englishes that are deliberately cultivated.

I support promoting native varieties but with the focus on real speech with all described phonetic patterns, not laboratory speech samples with canonical pronunciation and hyper articulation based on citation forms. Phenomena like aspiration+ and aspiration-, tapping, glottalization, assibilation, omissions should be enthusiastically promoted and practiced in speaking and listening classes. All learners of English have to understand that to know English words is to know different ways they sound in the flow of speech in different contexts. This knowledge will enable a learner of English to easily recognize those words in speech and react to them giving appropriate phonetic shape to the words they utter.

References

- 1. Air China "talks" to JFK Ground [Electronic Resource] // YouTube. 2008. URL: http://www.youtube.com/watch?v=3AFv48IWhJw
- 2. Air Traffic Control: Swiss Airbus Bird Strike [Electronic Resource] // YouTube. 2010. URL: http://www.youtube.com/watch?v=IICb8p9SvvM
- 3. BibleGateway. [Electronic Resource]. URL: http://www.biblegateway.com/passage/?search=Genesis+11:1–9
- 4. Broadbent, J. M. t-to-r in West Yorkshire English [Text] / J. M. Broadbent // English Language and Linguistics. 2008. Vol. 12, N 1. P. 141–168.
- 5. Cruttenden, A. Gimson's Pronunciation of English [Text] / A. Cruttenden. [S. l.] : Edward Arnold Limited, 2001. 360 p.
- 6. Crystal, D. English as a Global Language [Text] / D. Crystal. Cambridge Univ. Press, 2001. 159 p.
- 7. Fabricius, A. H. T-glottaling. Between Stigma and Prestige: A Sociolinguistic Study of Modern RP [Text] / A. H. Fabricius. Copenhagen: [S. n.], 2000. 180 p.
- 8. Firth, J. R. Papers in Linguistic 1934–1951 [Text] / J. R. Firth. London : Oxford Univ. Press, 1957. 233 p.
- 9. Gimson, A. C. An Introduction to Pronunciation of English [Text] / A. C. Gimson. 4th ed. / [ed. By S. Ramsaran]. London : Edward Arnold, 1989. 368 p.
- 10. Greenberg, S. Beyond the Phoneme: A Juncture-Accent Model of Spoken language [Text] / S. Greenberg, H. Carvey, L. Hitchcock et al. // Proc. of the Human Language Technology Conf. (HLT 2002). San Diego, California: [S. n.], 2002. P. 36–43.
- 11. Janicki, K. Elements of British and American English [Text] / K. Janicki. Warszawa: [S. n.], 1977. 139 p.
- 12. Jones, D. An Outline of English Phonetics [Text] / D. Jones. 9th ed. Cambridge Univ. Press, 1997. 128 p. [1st ed. 1918].
- 13. Kurath, H. A. Phonology and Prosody of Modern English [Text] / H. A. Kurath. Michigan: The Univ. of Michigan Press, 1964. 158 p.
- 14. Language Files: Materials for an Introduction to Language and Linguistics. 7th ed. [Text]. Ohio: The Ohio State Univ., 1998. 495 p.
- 15. Labove, W. Principles of Linguistic Change: Internal Factors [Text] / W. Labov. Blackwell Publishing Ltd., 1994. Peking: Peking University press, 2007. 641 p.
- 16. Labove, W. Principles of Linguistic Change: Social Factors. Blackwell Publishing Ltd., 2001. Peking: Peking University press, 2007. 572 p.

- 17. Ladefoged, P. The Sounds of the World Languages [Text] / P. Ladefoged, I. Maddieson. Cambridge, USA: John Wiley & Sons, 1996. 448 p.
- 18. Laver, J. Principles of Phonetics [Text] / J. Laver. New York: Cambridge Univ. Press, 1994. 736 p.
- 19. O'Connor, J. D. Phonetics [Text] / J. D. O'Connor. Great Britain: Penguin, 1973. 320 p.
- 20. Odden, D. Introducing Phonology [Text] / D. Odden. [S. l.]: Foreign Language Teaching Press and Cambridge Univ. Press, 2008. 348 p.
- 21. Perceptual Invariance of Co-articulated Vowels over Variations in Speaking Rate [Text] / J. W. Stack, W. Strange, J. J. Jenking et al. // JASA. 2006. Vol. 119, N 4. P. 2394–2405.
- 22. Pinker S. The language instinct [Text] / S. Pinker. W. Morrow and Company, 1994. 483 p.
- 23. Tenerife airport disaster [Electronic resource] // Wikipedia. 2006–2014. URL: http://en.wikipedia.org/wiki/Tenerife airport disaster
- 24. Wolfram, W. Phonological Analysis. Focus on American English. [Text] / W. Wolfram, R. Johnson. Washington D. C.: Prentice Hall Regents, 1982. 217 p.