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THE AUDITORY DISTANCE MODEL IN THE ACQUISITION OF INTERDENTAL FRICATIVES: AN EXAMPLE OF SERBIAN INTERLANGUAGE PHONOLOGY

Abstract: *Understanding and producing a foreign language incorporates a complex interaction of semantics, pragmatics, phonetics as well as syntax. Correctly perceiving and producing target language sounds may therefore seem as an inevitable step in successful foreign language acquisition. The current study investigates the application of the Auditory Distance Model (Brannen, 2011) on Serbian EFL learners' acquisition of interdental fricatives. The model in question provides an algorithm for determining possible differential substitutes for L2 phones non-existent in L1 phonological system, presupposing that differential substitution results from transfer and that - perception and production are interrelated. Subjects' pronunciation was recorded, submitted to analysis and later discussed. The results showed satisfactory level of applicability of the model in question to Serbian EFL learners' perception and production of interdental fricatives since it accurately predicts their potential substitutes. Furthermore, the interrelatedness of perception and production was demonstrated once again.*

Key words: *interdental fricatives, differential substitution, Auditory Distance Model, perception, production.*

1. *Introduction*

One of the most significant steps towards overcoming pronunciation difficulties is indubitably the detection and recognition of errors experienced. Pronunciation errors should be regarded as an integral and inevitable part in every language learning process and teachers should decide on the most efficient strategy to facilitate error reduction and eventual disappearance. Teaching pronunciation successfully should include both macro and micro perspectives, i.e. suprasegmentals as well as vowel and consonant segmentals (Murphy 1991).

Along with the strategies such as repetition, increasing input or dictionary use (Samalieva 2000) that proved beneficial for EFL learners‟ production of target sounds, learners oftentimes randomly resort to various strategies that may negatively affect the overall performance and likewise result in further erroneous production. Some of the frequently employed are the following:

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Differential substitution - Influenced by L1 interference and confronted with unfamiliar phonetic features, learners tend to substitute a target language sound with an already well-known native language sound or some other sound that seems alike. For example, Chinese learners will opt for /s/ and /z/ as alternatives for English interdental fricatives /θ/ and /ð/ (Rau et al. 2009), whereas Serbian learners will prefer native language interdental options /t/ and /d/ (Lee 2006).

Over-generalisation and over-elaboration - Occasionally learners apply newly learned rules to inappropriate forms or contexts, for example accenting every content word in an utterance, meaning that they are over-generalizing. Over-elaboration emerges when learners disregard speaking compared to reading and writing, thus producing unnatural, stilted speech, though not necessarily inaccurate (Tarone 1983).

Elision and epenthesis - To make pronunciation easier, learners omit a sound or insert a non-existent one. Elision is the non-articulation of a sound and epenthesis is the addition of a sound to a word in the L2. Both are a negative transfer effect of phonotactic constraints in the L1 (Brasington 1981).

Avoidance - Generally, learners demonstrate a tendency towards avoiding aspects of production that are considered problematic in some aspect (Schachter 1974). Hence, they simply eschew the words they are likely to mispronounce in order to conceal the actual extent of their pronunciation errors.

Hypercorrection or overcompensation - The phenomena in question appear when learners become aware of the effects on negative transfer and employ certain strategies to overcome it (Decamp 1972). Typically they excessively correct themselves even if they are not wrong for fear of making a mistake. Germans, for example, tend to use /w/ even when the initial /v/ is actually required, as in "van" or "village".

The present paper will predominantly deal with the strategy first listed and described. Namely, we seek to explore the application of the Auditory Distance Model (Brannen 2011) on Serbian EFL learners‟ acquisition of interdental fricatives. The model in question especially deals with the phenomenon of differential substitution serving as a convenient complement to current models of L2 phones acquisition, such as Speech Learning Model (Flege 1995) and Perceptual Assimilation Model (Best 1995). The aforementioned Brannen‟s model (2011) provides an algorithm for determining possible differential substitutes for L2 phones non-existent in L1 phonological system, presupposing that differential substitution results from transfer and that perception and production are interrelated. After an overview of theoretical background and the paper‟s rationale, the results of the conducted research are presented and discussed.

2. *Related Research in L2 Pronunciation Acquisition*

A number of recent studies in L2 pronunciation acquisition showed the interrelatedness of perception and production, i.e. they illustrated that accurate perception is necessary for correct production of L2 sounds across different languages (Escudero 2005; Best, Tyler 2007; Flege 1995; Best 1995). Brannen (2002) emphasized the role of perceptual factors in the acquisition of English sounds with native speakers of Japanese, Canadian French and French. Language transfer plays a decisive role especially in the beginning of learning, and sounds that are marked as similar seem to be more difficult for learners to acquire (Wayland 1997; Polka 1991; Brannen 2002), which of course contradicts the previously proposed theories of contrastive analysis (Stockwell, Bowen 1965). Flege‟s *Speech Learning Model* (1995) and his discrimination between new, equivalent and similar sounds is widely accepted nowadays, nevertheless, it still remains difficult to precisely determine whether a sound is similar or new. Due to the insufficient development of acoustic sensitivity, a learner cannot recognize a novel acoustic form, which is why they will use their mother tongue phonemic inventory to analyze target sounds (Flege 1995).

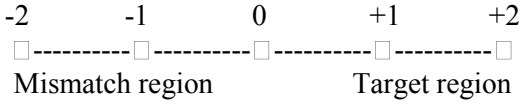
English interdental fricatives are highly problematic for non-native speakers aspiring to learn English as a foreign language, because the sounds in question are marked structures not appearing very frequently in world languages, more precisely a study revealed that the sounds appeared in only 7% of them (Maddieson 1984). Faced with an interdental fricative non-present in the mother tongue, a learner must attempt to find a suitable alternative in the native phonetic inventory. The choice of a substitute may depend on a target sounds‟ occurrence in the word, i.e. on immediate phonetic context or the differences in the structure of the mother tongue. Thus, Serbian and Russian speakers reportedly opt for /d/ - and /t/ as the possible substitutes for the voiced /ð/ and voiceless /θ/ interdental fricative, French, Japanese and German will choose /z/ and /s/, while the Dutch will base their choice on the target sounds‟ position in the word, consequently pronouncing /ð/ and /θ/ as /d/ and /t/ word-initially, and /z/ and /s/ word-finally (Wester, Gilbers, Lowie 2007). The phenomenon of differential substitution seems particularly interesting when it comes to interdental fricatives, since it displays a variety of contradictions. Namely, regarding the aspect of acoustic - similarity of the target sounds and the substitutes, the most suitable alternative for the voiceless /θ/ interdental would be /f/ since they are acoustically the most approximate differentiated merely by the following or preceding sounds (Tabain 1998). However, the majority of foreign language learners choose /t/ regardless. Even though interdental fricatives are irrelevant regarding overall intelligibility (Jenkins 2000), yet exploring learners‟ pronunciation habits in the interlanguage seem more than necessary for helping them to overcome the notorious problematic production.

3. *The Auditory Distance Model*

Before we discuss Brannen‟s Auditory Distance Model (2011) in detail, there are two more models dealing with differential substitution worth mentioning: *the Feature Competition Model* (Hancin-Bhatt 1994) and *Minimal Segments and Feature Pruning Model* (Weinberger 1990). Both models dealt with the substitution of English interdental fricatives with sibilants and stops. According to the Feature Competition Model, phonological features from a learner‟s L1 inventory not being equal, compete to overtake others, so that the most prominent ones are perceived and retained in the interlanguage. Learners‟ perception is thus restricted by the inequality of phonological features (Hancin-Bhatt 1994). Although similar to the previously described model, Feature Pruning Model has a different direction, i.e. instead of predicting the output of L2 based on the feature hierarchy of L1, Weinberger‟s model aims to determine feature hierarchy in L1 based on the L2 output (Weinberger 1990). Some features will always remain unchanged, unlike the variable ones, which corresponds to Hancin-Bhatt‟s conclusion about the prominence of features in the phonological inventory of a language.

According to Brannen‟s Auditory Distance Model (2011), Universal Grammar enables learners to access all provided phonetic features, yet each language possesses a unique inventory thus forcing a foreign language learner to opt for features phonetically similar to mother tongue ones. Brannen proposed an algorithm for calculating matches and mismatches between a target and native language inventories in order to determine the source of differential substitution in perception, hence in production, as well, testing it on five world languages.

Affected by transfer, L2 features are compared to the ones stored in already familiar L1 inventory and their distance or mismatching is calculated. A foreign language learner will choose a phonetic feature that is the closest to the corresponding mother tongue one. If a target and L1 feature diverges, it falls in the mismatch region receiving the value -1 or -2. Occasionally, even though the features are the same, their salience may be different due to various factors, in which case L1 feature will fall into target region. The auditory distance is thus calculated along the following scale:



Serbian possesses dental plosives, dental fricatives and labio-dental fricatives, however, interdental fricatives are not present in Serbian phonetic inventory. Consequently, the L1 features fall into the mismatch region and receive a negative value. The learner will opt for the perceptually closest sound, i.e. the sound with the shortest auditory distance.

Having Brannen‟s calculations in mind, interdental fricatives, with which the present paper is concerned, are characterized by the following features:

Intake Target {θ-ð}
MELLOW
CONTINUANT
CORONAL
DENTAL
LAMINAL

Taking the previously presented into consideration, the Auditory Distance Model predicts the following hierarchy of differential substitutes for voiced and voiceless English interdentals by Serbian EFL learners, namely, [d], [dz], [v] for /ð/ and [t], [ts], [f] for /θ/. Our aim now is to determine the level of applicability and reliability of the proposed model regarding the potential differential substitutes produced by Serbian EFL learners for the sounds in question.

4. *Methodology*

4.1 *The aim of the study*

The aim of the research is to investigate the application of Brannen‟s Auditory Distance Model (2011) in Serbian EFL learners‟ acquisition of English interdental fricatives, i.e. in predicting the potential differential substitutes for - the mispronounced target phones.

4.2 *Research questions*

Bearing in mind the previously presented theoretical data regarding the model in question itself, we formulated the following research questions:

1. Can Auditory Distance Model correctly predict potential substitutes in the perception of interdental fricatives /θ/ and /ð/ by Serbian EFL learners?
2. Are the results of perception reflected in the production of the target phones?

4.3 *Participants*

A total of seventy participants (54 females, 16 males) at the age of 19 and 20 (mean age 18.5) participated in the testing of perception and production. Five participants were excluded from the analysis due to poor sound in the recordings and extremely low scores in perception tasks. All the participants were first-year students at the Faculty of Philology and Arts, University of Kragujevac. The learners had been learning English formally for 12 years and had not had any previous phonetic training experience or experience abroad. They were given course credit for their participation.

4.4 *Instruments and procedure*

To measure the applicability of the Auditory Distance Model (Brannen 2011), we conducted perception and production testing from October to December 2012. For the purpose of measuring perception accuracy, the participants engaged in phoneme identification and phoneme discrimination testing, whereas the production accuracy was measured through two types of task: word list reading and short text reading.

4.5 *Statistical Data Processing*

Percentage scores were counted to display perception and production accuracy across tasks.

5. *Results and Discussion*

The results of the perception testing across phoneme identification and phoneme discrimination tasks are shown in tables for the sake of clarity and explained in the immediately ensuing sections of the paper.

5.1 *Perception Task Scores*

Table 1: Phoneme Identification Task – voiced interdental fricative /ð/

Token	Phoneme Identification Percentage Count (%)
ð	37.14
d	46.86
tz	16.86
v	0.57

The results of the phoneme identification task show poor level of target sound identification, since almost a half of participants (46.86%) identified the target phone as /d/. There are two possible explanations for the situation, namely, students might have recognized the target phoneme wrongly either because their perception of the voiced interdental fricative has yet to be developed or because they are not used to solving perception tasks, i.e. for methodological reasons. Furthermore, regarding methodological issues, having in mind that the participants were first-semester undergraduate students, the situation as it is points to the type of input and phonetic instruction the students have had so far during their primary and secondary education, i.e. significant lack of explicit pronunciation instruction and time devoted to practising target language sounds. The target sounds in pronounced words were recognized correctly in 37.14% of cases, which is not a very favourable result, however, it speaks about the fact

that the participants might be starting to raise the level of their perceptual awareness for the voiced interdental fricative.

Concerning the actual research questions for the current paper, the Auditory Distance Model correctly predicts the hierarchy of substitutes by Serbian EFL learners for the target sound. The dental plosive /d/ remains the primary substitute in the perception, while /tz/ and /v/ seem to be present yet to a significantly smaller extent. It seems worthy of noticing that the latter sounds, although fricatives in nature, do not seem to be the preferred choice of substitutes compared to the plosive /d/, even though they are acoustically more similar, but of course it is not uncommon for foreign language learners to choose a less obvious alternative the reason for which is still to be confidently determined.

Table 2: Phoneme Discrimination Task – voiced interdental fricative /ð/

Token Pair	Phoneme Discrimination Percentage Count (%)
ð - d	33.43 – 66.57
ð - tz	77.14 – 22.86
ð - v	96.57 – 3.43

The results based upon the phoneme discrimination task show similarly weak perception of the voiced English interdental fricative as in the case with the phoneme identification task, since the participants have the greatest problem discriminating /d/ and /ð/. The participants have less difficulty in discriminating /tz/ and /ð/, /v/ and /ð/, as well. Again, the reasons may be partly methodological, since the majority of students have experienced perceptual testing for the first or second time only.

The hierarchy of the potential substitutes in perception once again corresponds to the predicted one by the Auditory Distance Model, although we must add that the substitution goes strongly in favour of the dental plosive /d/ as opposed to other options.

Regarding the significance of the task type and its influence on the results, we may conclude that there is no significant difference in percentage scores across tasks for the voiced interdental fricative. The model in question accurately predicts the differential substitutes regardless of the task type. Furthermore, the perception of the voiced interdental fricative is not yet fully developed independent of the task type in testing. Thus, the results of the two tasks for the voiced interdental fricative correspond to each other and point to the necessity of the improvement of students‟ perceptual abilities.

Table 3: Phoneme Identification Task – voiceless interdental fricative /θ/

Token	Phoneme Identification Percentage Count (%)
θ	34.29
t	50.86
ts	12.86
f	2

Judging by the phoneme identification task for the voiceless interdental fricative /θ/, the participants have even more difficulty identifying it than with what was the case with the voiced counterpart. The primarily perceived substitute is the voiceless dental plosive, since more than a half (50.86%) recognized the pronounced target sound as /t/. A slightly smaller percentage of identified tokens was in favour of the second substitute, compared to the second substitute for the voiced interdental fricative, yet a slightly higher percentage was identified as /f/. Even though, /f/ and /θ/ display strong acoustic resemblance, /f/ does not represent a perceptual barrier, i.e. it is not confusable with the English voiceless interdental fricative. The results point to the insufficient development of perceptual awareness among the majority of participants, which again may be the consequence of inadequate input or deficient pronunciation instruction. Furthermore, the interlanguage phonetic system is constantly reshaping, and with the appropriate training the situation may significantly improve. Additionally, the results may be relatively influenced by the fact that a great number of the participants participated in the type of perceptual awareness examination for the first time, which might have formally impeded a better overall performance on the test.

Regarding the applicability of the Auditory Distance Model, we may conclude that it correctly predicts the substitutes order in the phoneme identification task for the voiceless interdental fricative. It is important to underpin that the highest percentage of responses belongs to the voiceless dental plosive /t/, the difference in percentage being considerable, i.e. not due to chance but to the actual strong preference for /t/ as a substitute in students‟ perception of the voiceless interdental fricative.

Table 4: Phoneme Discrimination Task – voiceless interdental fricative /θ/

Token Pair	Phoneme Discrimination Percentage Count (%)
θ - t	29.14 – 70.86
θ - ts	66.86 – 33.14
θ - f	94.57 – 5.43

Similarly to the results of the phoneme identification task, the results of the phoneme discrimination task show poor level of perceptual discrimination between /t/ and /θ/. Moreover, the discrimination between /ts/ and /θ/ seems to

be slightly more problematic than the discrimination between /tz/ and /ð/. Interestingly enough, discriminating between /tz/ and /θ/ is more difficult than the discrimination between /f/ and /θ/, even though the latter sounds are acoustically so similar that they are sometimes hard to differentiate on the spectrogram. Such poor discrimination may stem from the insufficient development of the target sound‟s perception and from the already mentioned methodological issue, i.e. the unfamiliarity of the task type for the majority of the participants.

We may conclude that the Auditory Distance Model accurately predicts the hierarchy and choice of substitutes in the perception of the voiceless interdental fricative /θ/ in Serbian-English interlanguage phonology.

Regarding the results‟ dependence on task type, we may conclude that there is no significant difference in percentage scores across tasks for the voiceless interdental fricative, as well. This means that the level of perception of the interdental fricative /θ/ is still to be developed and polished, and it does not rely upon the task type employed in testing it. Thus, the results of the two tasks for the voiceless interdental fricative correspond to each other and likewise point to the necessity of the improvement of students‟ perceptual abilities.

5.2 *Production Task Scores*

In order to examine the interrelatedness of perception and production, as well as to investigate the applicability of the Auditory Distance Model on production, the participants were engaged in word list reading and short paragraph reading tasks. The results are presented in tables for the sake of clarity and analyzed in the following parts of the paper.

Table 5: Production Task Word List Reading – voiced interdental fricative /ð/

Target Token	Production Percentage Count (%)
ð	30
d	53.64
tz	8
v	1.21

In the first production task, in which the participants got a pre-planned list of words containing the voiced interdental fricative, less than a third of students pronounced the target token correctly. There is a huge difference between the number of tokens that were answered accurately and the ones pronounced using the dental plosive as a substitute, since more than a half of participants (53.64%), used /d/ as a primary substitute. Only 8% of the students used an affected pronunciation with /tz/ variant, and /v/ was used even less (1.21%), in almost negligible number of cases. This is particularly interesting because it is not uncommon for even the native speakers of English to use /v/ instead of /ð/, in the

phenomenon known as th-fronting (Wells 1982: 327-329), especially word-initially or word-finally. Nevertheless, Serbian speakers strongly prefer /d/ as a substitute and use /v/ very rarely, almost by accident.

Table 6: Production Task Short Paragraph Reading – voiced interdental fricative /ð/

Target Token	Production Percentage Count (%)
ð	30.67
d	65.25
tz	2.39
v	1.11

In the paragraph reading, almost the same percentage of answers was correct, however, a higher percentage of /d/ substitute was noticed than in the first production task, probably because the second task was less controlled since they had connected words and sentences. Unlike the situation with perception tasks, the participants were familiar with this type of testing, since they are used to reading words and sentences in English. Slightly smaller percentage of instances with /tz/ and /v/ substitutes was noticed in the paragraph reading task as compared to the word list reading tasks for reasons explained further in the ensuing parts of the paper.

Regarding the application of the Auditory Distance Model, we may say that it accurately predicts the choice and hierarchy of substitutes in production of the voiced interdental fricative across tasks, as well.

There is no significant difference in the performance depending on the task, yet it can be noted that in the second task, paragraph reading, the participants produced the target sound using the substitute, probably due to the fact that the words were connected so that the task was slightly less formalized. The second task also showed smaller percentage of /tz/ realizations, again probably due to formality issues, since the first task is highly controlled so the participants resorted to hypercorrection more frequently.

Table 7: Production Task Word List Reading – voiceless interdental fricative /θ/

Target Token	Production Percentage Count (%)
θ	27.57
t	56.07
ts	8.43
f	0.79

According to the results of the word list reading production task for the voiceless interdental fricatives, the primary substitute is of course the voiceless dental plosive /t/ used in more than half of instances (56.07%). The percentage of correct pronunciations is slightly lower (27.57%) than in the same production task for the voiced interdental counterpart (30%), probably because the students find the voiceless variant harder to pronounce than the voiced one. The remaining responses included an affected /ts/ pronunciation (8.43%) and only a couple of /f/ instances (0.79%). Almost negative score when it comes to /f/ realizations is again very interesting for similar reasons as was the case with the voiced interdental fricative, since even the native speakers use /f/ for the interdental fricative /θ/, especially speakers of Cockney in the th-fronting examples (Wells 1982: 327-329).

Table 8: Production Task Short Paragraph Reading – voiceless interdental fricative /θ/

Target Token	Production Percentage Count (%)
θ	30.1
t	67.12
ts	2.78
f	0.19

The second production task, paragraph reading, shows a slightly higher percentage of correct pronunciation and even higher percentage of /t/ substitutions. Similarly to the results of the second production task for /ð/ and /tz/ substitutes, the instances of /ts/ are rare, probably due to the formality of tasks, since the second task was less controlled and exerted slightly more natural pronunciation without hypercorrection. The instances of /f/ are extremely rare (0.19 %), which is surprising considering the acoustic similarity and spectrographic indiscernibility of the two sounds, /θ/ and /f/, already mentioned in the previous parts of the paper.

After the results of both production tasks were presented, we may add that the Auditory Distance Model accurately predicts the substitutional variants for the voiceless interdental fricative, as well.

In general, the results of the all production tasks emphasize the correlation between perception and production since the results of perception tasks for both interdental fricatives correspond to a great extent to the results of production testing. The consequent explanation for the situation is that the participants have problems perceiving the target sounds, which is reflected in their troublesome pronunciation. Once they detect the phonetic features by ear, they will be able to produce them in a more native-like manner. Poor performance in terms of pronunciation further draws attention to the lack of adequate input and deficient pronunciation training and explicit pronunciation instruction.

Furthermore, the results of the production tasks for both voiced and voiceless interdental fricatives confirm the conclusions from previous studies that the primary substitutes for /θ/ and /ð/ are dental plosives /t/ and /d/ (Wester, Gilbers, Lowie 2007; Lee 2006). The influence of the mother tongue is obvious here, which confirms Brannen‟s (2011) presupposition that the fundamental cause of differential substitution is the phenomenon of transfer. Serbian does not possess interdental fricatives in its phonemic inventory, however, it contains sounds that are phonetically similar to /θ/ and /ð/, i.e. labial fricatives /f/ and /v/, dental fricatives /s/ and /z/ and dental plosives /d/ and /t/. Confronted with a new or similar phonetic feature in the target language, learners usually resort to those options available in their mother tongue inventory until their perception is at the level capable of noticing the minimal differences between the two sounds. Eventually, with the correctly perceived sounds, successful production is more easily attainable. Furthermore, similarly to other studies (Wester, Gilbers, Lowie 2007), the question arises whether interdental fricatives are completely new or similar sounds to Serbian speakers, which again points to the problems with Flege‟s equivalence classification (Flege 1993), since it is quite difficult to precisely determine the criteria by which a certain sound is completely new or similar for foreign language learners. Interdental fricatives are new in terms of phonology, yet they are acoustically close to the already existent sounds in Serbian phonemic inventory. Here is where the additional theoretical model may fill the gaps if it is appropriately employed and combined.

The proposed algorithm of the Auditory Distance Model (Brannen 2011) accurately predicts the potential Serbian EFL learners‟ substitutes for English interdental fricatives both in perception and production. The insight into the substitutes enables us to more closely examine the nature of the interlanguage phonological system, since providing information about whether the target sounds are pronounced correctly or not is not enough for a more exhaustive examination of the problems students deal with regarding the aspect of pronunciation of the foreign language.

6. *Conclusion*

After the introductory part of the paper in which the basic theoretical notions as well as related research were presented, the results of the perception and production testing were displayed and discussed. Analysis being done, we established a few limitations to the study. Namely, possibly the choice of tasks for production testing was inadequate since perhaps we could have opted for two tasks differing to a greater extent in terms of formality, because in that case we would have obtained even more spontaneous responses which might have revealed more about the differential substitutes and their dependence upon tasks.

Nevertheless, we dare conclude that the paper has successfully answered the proposed research questions since, judging by the results, the Auditory Distance Model (2011) accurately predicts potential substitutes for English interden-

tal fricatives in perception and production by Serbian EFL learners. Once again the interrelatedness of perception and production were demonstrated. The present paper also pointed to some minor deficiencies in certain aspects of the current theoretical models, especially Flege‟s equivalence classification (Flege 1993), which were already recognized as problematic in other studies. The contribution of the paper also lies in expanding the traditional view that the only substitutes for English interdental fricatives /θ/ and /ð/ are Serbian dental plosives /t/ and /d/ (Lee 2006) by shedding light on two more variants for each target sound which are present, although only occasionally. By providing examples of more than one substitutional variant, we may gain insight into the nature of the complex interlanguage phonological system.

Further research is necessary regarding the possible application of the model to the Serbian EFL learners‟ acquisition of other consonants from English phonemic inventory.

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MODEL AUDITORNE UDALJENOSTI I USVAJANJE ENGLESKIH INTERDENTALNIH FRIKATIVA NA PRIMERU ENGLESKO-SRPSKE MEĐUJEZIČKE FONOLOGIJE

Rezime

Ovladavanje stranim jezikom uključuje složenu interakciju semantike, pragmatike, fonetike i sintakse. Pravilna percepcija i produkcija glasova jezika cilja stoga predstavlja neizostavni korak na putu ka uspešnom usvajanju stranog jezika. Rad ima za cilj da ispita mogućnost primene *Modela auditorne udaljenosti* (Brannen 2011) na usvajanje interdentalnih frikativa kod srpskih učenika koji engleski uče kao strani jezik. Dati model obezbeđuje algoritam na osnovu koga se mogu predvideti supstituenti za one glasove koji ne postoje u maternjem fonološkom inventaru, pod pretpostavkom da je diferencijalna supstitucija posledica jezičkog transfera i da su percepcija i produkcija međusobno zavisni. U radu smo snimili i analizirali izgovor ispitanika. Rezultati su pokazali da se pomenuti model može primeniti na utvrđivanje supstituenata za interdentalne frikative u englesko-srpskoj međujezičkoj fonologiji. U radu je još jednom pokazana uska isprepletanost percepcije i produkcije.