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SERBIAN EFL LEARNERS' UTTERANCE MEANING INTERPRETATION BASED ON INTONATION CUES

Abstract: Most of the EFL intonation studies focus on the production level, slightly disregarding the level of perception. The present study hence aims at exploring Serbian EFL learners' ability to interpret foreign language utterances relying on the intonation of native speakers. The participants listened to the examples from the corpus and had to decide upon the meaning of the articulated sentence depending on the intonation contour of the utterance. The listening material was collected from British TV shows and films, combined with native speakers' utterances from the previously recorded material, and the results were compared and discussed. Having in mind that the correct perception precedes accurate production, we sought to explore the level of Serbian EFL learners' proficiency in perception of L2 intonation and thus provide possible suggestions for the enhancement of production.

Key words: L2 intonation, utterance meaning, Serbian-English interlanguage

1. Introduction

Compared to the already considerable number of studies dealing with segmental interphonology which is currently still increasing (Flege 1995; Logan, Pruitt 1995; Bradlow et al. 1999; Derwing, Munro 2005), research concerning the issues related to the acquisition of L2suprasegmental features is noticeably smaller in amount (Mennen 2004), especially papers directly connected to the perception of L2 intonation. One of the principal causes of the current situation may be the fact that researchers worldwide have not conceded upon an L1 intonation acquisition model, either (Ritchie, Bahtia 2009). The lack of research further results in the deficiency of appropriate and equipped instruction, in terms of suitable teaching materials, such as textbooks e.g., which is why suprasegmentals remain insufficiently taught compared to segmentals, as well. Some researchers suggest that the current state of affairs is even worsened by the fact that intonation is more elusive than phonemes, hence more difficult to learn and acquire (Amayo 1981).

English contains various types of intonational phrases and each one of them depicts variations in levels of pitch, hence drawing attention to the intention of the speaker. Whenever a word is to be emphasized, there is a tonic syllable making the phrase conspicuous by representing the strongest pitch change (Ladefoged 2006). A tonic syllable customarily marks the novel information or the part of an utterance

which the interlocutor should pay special attention to. It seems particularly important for EFL learners to realize the differences in pitch variations not only in statements but in questions as well, since the intonation of questions is quite flexible in English and responsible for the emphasis of meaning.

The present study thus aims to investigate Serbian EFL learners' attained ability to perceive English intonation, more precisely, to interpret utterance meaning based on intonation cues.

2. Intonation and the Interpretation of Meaning

The problem with analyzing the meaning of intonation lies in the fact that it is not precisely clear, even after an appreciable number of investigations, what type of meaning is to be taken into account or what to ascribe the particular kind of meaning to. Moreover, there is a query regarding context-independence of intonation contours, i.e. whether it is possible and how to characterize it. Related to the first problematic area, Selting's study, for instance, focused on the effect of intonation on discourse organization (Selting 1995), whereas other studies included information about the emotional meanings of intonation (Couper-Kuhlen 1986) or the analysis of its structure (Féry 1993). Regarding the issue of what to assign the intonation meaning to, there have been two possible viewpoints to date. Namely, one view suggests ascribing the meaning to the whole stretch of an intonational phrase, hence better known as the contour approach (Gussenhoven 1984), and the other claims that meaning should be attributed to single elements such as the boundary tone, e.g., which is why it is known as the compositional approach (Pierrehumbert, Hirschberg 1990). By altering the nuclear stress position in an utterance, the focus may alter, hence the interpretation of the utterance will invariably change (Gussenhoven 1984). Additionally, the importance of intonation for the interpretation of utterance meaning is evident in numerous studies investigating the following issues: the variation of intonation may point to information status distinctions in terms of theme and rheme, alterations in pitch range, pausal duration and speaking rate result in the overall discourse structure variations, diverse speech acts and variations in tune and contour are interrelated, and intonation contour, pausal duration and final lowering are believed to strongly correlate with turn-taking (Selting 1995).

Another important issue concerning the meaning of intonation open to dispute is the question whether the meaning of intonation may be considered universal, which would be evident in phonetics, or language-specific, which would be exercised by phonology (Gussenhoven 2002). The author suggests three biological codes to explicate the universal tendencies in the interpretation of pitch variations. The first, Frequency Code, underlines the fact that larynxes vary in size, thus the speech of adults and children, males and females will differ. Related to interpretation, lower pitch may indicate affective information in line with dominance, aggressiveness or confidence e.g., while higher pitch may point to submission, i.e. friendliness or politeness, hence the rising pitch in interrogatives and the falling one in assertive utterances. The Effort Code is related to the interrelation between an increased effort of speech production and precision of articulation as well as the wider

pitch range, which can be interpreted as speaker's tendency to emphasize the importance of the particular segment in an utterance as opposed to others. The final, Production Code explains the speaker's increased effort at the beginnings of phrases, with higher subglottal pressure resulting in a gradual drop in intensity and fundamental frequency, known as declination. The interpretation of information borne by the utterance is dependent on the high beginnings and low endings of phrases, i.e. high endings indicate continuations, whereas low endings indicate topic finalization.

A generally adopted description of English tone units, the one learnt by the participants of our study as well, is the one suggested by J. D. O'Connor and G. F. Arnold (1973) who delineated ten tone groups characterized by distinct pitch variations. For the purpose of conciseness, we shall only briefly mention them in relation to the attitudinal information they convey. The *Low Drop* points to definiteness and Completion, used in statements, wh-questions, yes/no questions (when the speaker sounds serious), and in commands. The *High Drop* also points to definiteness, the variation of pitch is greater, thus the speaker is more involved in an utterance. The *Take-Off* invites the listener to participate in conversation or to repeat what has just been said in the case of questions. The *Low-Bounce* is an intonational contour pointing to reassurance and questions indicate the interest of the listener. The *Switchback* containing a fall-rise intonational pattern expresses contrast in statements, and bewilderment and astonishment in questions. Commands comprising *the Switchback* tone unit represent a warning, while interjections express scorn. The *Long Jump*'s high fall contains definiteness of falling intonational contours, with an additional impression of protest. Commands with the *Long Jump* are perceived as recommendations, not as actual orders. The *High-Bounce* is a typical interrogative pattern in European languages. The *Jacknife* underscores the speaker's impressed state and the sense of awe. The *High Dive* containing a high fall followed by a low rise is used to emphasize that the first part of an utterance carries the important information or idea, not the second. Finally, the *Terrace* is characterized by a level pitch and it often indicates non-finality.

3. Methodology

3.1. The Goal of the Study

The current study aims at investigating the perception of English intonation by Serbian EFL learners, more precisely, the goal is to explore the learners' utterance meaning interpretation based on the intonation cues provided. We also attempted at comparing the results of two different proficiency level groups of participants to provide insight into whether the perception of intonation advances with the advancement of overall English proficiency.

3.2. Research Questions

Having the previous research in mind and in order to potentially attain the proposed goal of the study, we formulated several research questions:

- Are the participants in the study able to correctly perceive English intonation, i.e. are they able to recognize the nucleus or the type of intonation pattern employed in an utterance?
- Are the participants able to recognize the underlying meaning of the utterance and the type of speech act based on the provided intonation pattern?
- Are there any intonation patterns and meanings associated withthem that are especially problematic for the participants?
- How well do the participants perceive the attitude and emotional state of the speaker based on the utterance intonation?
- Is there a significant difference between the participants belonging to different proficiency groups, i.e. first-year and final-year English major students?
- What are the attitudes of the very participants on the way they perceive English intonation?

3.3 Participants

The participants in the study were first-year and fourth-year English majors at the Faculty of Philology and Arts, University of Kragujevac. Atotal of 41 first-year and 32 fourth-year students participated in the study. The first-year students had a slight temporal advantage since they had just completed their English phonetics course, i.e. the segment of the course dealing with mastering English intonation with a predominant focus on colloquial British English intonation patterns as described by J.D. O'Connor and G.F. Arnold (1973). The students were presented with theoretical notions regarding the structure and functions of English tone units along with practical exercises in terms of listening to and producing intonation patterns from the previously mentioned source combined with additional instructor's material from the internet data bases or British TV shows.Having in mind that the fourth-year students might have forgotten the types and names of the intonation patterns due to the time span of three years, we disregarded the results of the part of the research where they were supposed to name the intonation pattern.

3.4 Measuring instruments

The primary instruments in the study were excerpts from British TV shows containing the required intonation patterns combined with native speakers' recorded utterances from different internet archives and just a few samples from the class material by O'Connor and Arnold (1973), for we were not able to find adequate examples of instances of intonation contours in the corpus . The secondary instrument was a questionnaire comprising statements with Likert scale answers designed to obtain students' views regarding the overall acquisition of English intonation and particularly their ability to perceive English intonation and interpret utterance meaning based on it.

The perception experiment consisted of two parts and in each of them students listened to recordings and answered multiple choice questions related to them. In the first part the students had to recognize the general structure of the tone unit via three tasks after listening to various utterances with different intonation patterns: to recognize the nucleus (three examples), to recognize whether the tone is rising or falling (five examples) and to precisely

recognize the tone unit (six examples). The level tone was excluded from the second task of part one since it is rare in spoken English and not considered as functional tone. In the second part, which also comprised three tasks, students had to interpret meaning according to the provided intonation contour. In task one, the students had to recognize the actual meaning of the uttered sentence (ten examples). In task two the students had to choose a correct option representing the speakers' attitude or feeling based on the intonation of the given utterance (eight examples). In task three of the perception experiment the students were offered explanations of the speakers' attitude and meanings of utterances and they were to choose the correct option of the intonation suitable for the particular meaning (six examples).

3.5 Procedure

The participants underwent the perception experiment (listening to the recordings and answering the related questions) during two of their regular classes (during the 2012/2013 academic year) and the questionnaire was distributed subsequently.

3.6 Statistical Data Processing

The data gathered from the corpus of the study were analyzed through percentage counts and the student's t-test for obtaining the statistical significance of the difference between the compared groups.

4. Results and Discussion

For purposes of clarity, the results of the perception experiments are provided in tables containing the percentage scores for both groups of participants along with the results of the statistical analysis.

Part 1: Perception of the General Intonation Structure

Task Type	The First Year Accuracy (%)	The Fourth Year Accuracy (%)	Statistical Significance
Recognizing the nucleus	55.28	73.96	Mean 53.6900 62.6733
Recognizing the falling nucleus	36.28	43.75	SD 16.6720 16.4894
the rising nucleus	69.51	70.31	SEM 9.6256 9.5202 N 3 3 P=0.2272 t = 1.7220 df = 2 s.e.o.d.[1] = 5.217

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[1] Standard error of difference

Recognizing the tone unit *The High Drop*HH+HF	56.25	43.9	Mean 54.4817 46.3383
*The Long Jump*LH+HF	65.63	39.02	SD 29.7119 24.5831
*The High Bounce*HH+HR	90.63	78.04	
*The Take off*LH+LR	84.37	73.17	SEM 12.1298 10.0360
*The Switch Back*HH+FR	21.88	26.83	
*The Jackknife*HH+RF	17.07	28.13	N 6 6 P=0.6162 t = 0.5173 df = 10 s.e.o.d.= 15.743

In the first task of the first part of the perception experiment, students listened to three sentences with nuclei in different positions and the results demonstrate that the fourth year students perceive nuclei slightly better (73.96%) yet with no statistical significance whatsoever, even though the first year students (55.28%) have just completed their phonetics course focusing on the structure of the tone unit. However, both groups did not achieve high accuracy scores which points to the lack of adequate intonation perception training. No statistical significance was found in the second and third tasks either (P=0.2272 and P=0.6162).Nevertheless, differences in performance can be noticed. The second task showed an even lower perception level especially for the perception of falling intonation, which goes in line with some of the previous SLA research regarding L2 intonation (Farías 2013). The falling intonation, especially in wh-questions proved to be more difficult to perceive than the rising, which may be explained by the deficiency in distinction between intonations in yes/no and wh-question types, since students generalize rising intonation for all question types. The production of falling intonation of wh-questions likewise seemed to be problematic in previous studies (Gokgoz-Kurt, Medlin 2013). The two groups of participants scored almost identically in perceiving the rising intonation; however, although the results were more favourable than the ones with falling intonation, the level of achievement was still not satisfactory, especially for the fourth year. Expectedly enough, the first year students predominantly demonstrated more accurate performance in the third task in which they had to recognize and name the tone unit, since the relevant pieces of information had been studied more recently than was the case with the fourth year students. The results did not prove statistically significant, yet the only segment where the fourth year participants performed more correctly was *The Switch Back*, i.e. the fall-rise, notoriously difficult intonation contour for EFL learners to acquire (Ward, Hirschberg 1985; Toivanen 2001). The scores for rise-fall were equally disconcertingly low, even for the first year students who had previously spent several classes practicing both the perception and production. Evidently, more systematic and time-consuming training is a prerequisite for the participants in our study. The best achievement with both groups was the tone units containing the rising nucleus, *The High Bounce* and *The Takeoff*.

Part 2: Perception of Meaning and Speakers' Emotions Based on Intonation

Task Type	The First Year Accuracy (%)	The Fourth Year Accuracy (%)	Statistical Significance
Recognizing the meaning Falling	28.57	45.31	Mean 26.7825 42.5800
Rising	38.09	78.13	SD 8.9854 26.1274
Fall-rise	23.8	28.13	SEM 4.4927 13.0637
Rise-fall	16.67	18.75	N 4 4 P=0.1670 t = 1.8158 df = 3 s.e.o.d. = 8.700
Recognizing speakers' attitude and emotions Disbelief	29.27	31.25	
Reassurance	17.07	31.25	Mean 42.1856 59.8400
Disconcertion	26.83	43.75	SD 20.3014 23.8573
Surprise	34.15	84.38	
Bewilderment	68.29	93.75	SEM 6.7671 7.9524
Reprimand	59.38	70.73	N 9 9
Disappointment	65.85	87.5	
Irony/Condescension	34.15	59.38	P=0.0142 t = 3.1206 df = 8 s.e.o.d. = 5.657
Recognizing the adequate intonation pattern for a given meaning	33.33	47.92	

In the first part of the second part of the perception experiment, the participants had to recognize the meaning of the utterance based on the provided intonation they listened to in the recorded material. The fourth-year students performed better in both falling and rising intonation examples, even though the results were not significantly different in statistical terms. In the examples with rising intonation the percentage

score is twice as high in favor of the fourth year (78.13% as opposed to 38.09%). The situation can be explained by the higher overall proficiency level, hence the better comprehension of meaning and pragmatic aspects of the utterance. We do not dare make a more certain conclusion that the current results were due to higher attainment of the perception of intonation since the following results concerning the complex forms would prove us wrong.Both groups scored poorly with merely a third of the total number of participants recognizing the meaning of fall-rise utterances, even less so in the case ofrise-fall intonation contours. The sole part of the experiment where the results between the two groups of participants proved to be statistically significant was the task in which students had to recognize speakers' attitudes or emotions based on the articulated intonation. The general difficulties the students in our study encountered in perceiving the meaning based on intonation are not surprising since they support the findings of previous studies (Toivanen 2001; Atoye 2005; Trimble 2013). The fourth-year students performed better in all the examples probably due to more considerable foreign language experience and familiarity with pragmatic aspects of discourse. The greatest accuracy was demonstrated in recognizing surprise and bewilderment on the part of the speaker; nevertheless, detecting disbelief and reassurance was the most demanding for both groups. Ironic utterances expressing condescension towards the interlocutor were likewise quite difficult to perceive which was demonstrated in other studies as well (Shively et al. 2008). The final part of the perception experiment was reverse, i.e. the aim was to determine the intonation pattern when the utterance meaning was given beforehand. The results were again in favor of the fourth year, and yet significantly low, which underscores the participants' poor level of target language intonation perception. Having the interrelatedness and interdependency of perception and production in an interlanguage system in mind, we would not expect better results in the production aspect of English intonation from the participants in our study. The demonstrated low level of proficiency in terms of intonation is not restricted to Serbian EFL learners, judging by the supporting conclusions from the previous research (Chen 2013).

Taking the presented results of the experiment into consideration, we sought to discover the attitudes and views of the very participants regarding the issues related to the perception of English intonation. The results of the questionnaire are presented in the following table with a comparison of the results of both groups of participants, except for the statistical analysis which was omitted, since the answers were supporting data for our claims not essential for the primary topic of the paper. Furthermore, the results were similar for both groups for most of the statements.

Part 3: Questionnaire: Students' Attitudes on the Perception of Intonation

Statement		Answers (%)				
		Strongly agree	Agree	Don't know	Disagree	Strongly disagree
Intonation acquisition is necessary for successful use of English.	I	17.07	53.66	12.2	17.07	/
	IV	37.5	62.5	/	/	/
I need to use intonation correctly to be understood by others.	I	29.27	21.95	7.32	35.59	4.88
	IV	31.25	12.5	/	46.88	12.5
I need to use intonation correctly to sound like a native speaker.	I	24.39	41.46	9.76	12.2	12.2
	IV	37.5	56.25	/	3.13	3.13
Acquiring English intonation is difficult.	I	19.51	70.73	2.44	4.88	2.44
	IV	15	46.88	/	9.38	/
I find it difficult to produce English intonation patterns.	I	14.63	78.05	/	4.88	2.44
	IV	37.5	37.5	9.38	15.63	/
I aim to use English intonation the way native speakers use it.	I	29.27	53.66	4.88	9.76	2.44
	IV	31.25	53.13	/	15.63	/
I can distinguish meanings in a sentence based on different intonation patterns.	I	2.44	9.76	17.07	46.34	24.39
	IV	34.38	46.88	9.38	6.25	6.25
I have problems recognizing rising intonation.	I	36.59	39.02	9.76	9.76	4.88
	IV	25	46.88	6.25	18.75	6.25
I have problems recognizing falling intonation.	I	43.9	43.9	9.76	2.44	/
	IV	12.5	53.13	6.25	15.63	12.5
I have problems recognizing complex patterns, e.g. fall-rise.	I	43.9	48.78	7.32	/	/
	IV	59.38	31.25	3.13	3.13	3.13
I find it difficult to recognize all the English intonation patterns.	I	26.83	43.9	12.2	12.2	4.88
	IV	18.75	37.5	6.25	15.63	21.88
I practise English intonation outside University classes.	I	12.2	24.39	9.76	29.27	24.39
	IV	/	37.5	12.5	25	25
When I listen to native speakers, I pay attention to the intonation of their utterances.	I	14.63	39.02	12.2	24.39	9.76
	IV	18.75	56.25	6.25	9.38	9.38

Intonation influences the interpretation of meaning.	I	34.15	48.78	9.76	4.88	2.44
	IV	37.5	53.13	9.38	/	/
Speakers express their emotions and attitudes via intonation of an utterance.	I	34.15	51.22	4.88	4.88	4.88
	IV	46.88	50	6.25	/	/

The majority of the participants agree that acquiring intonation is necessary for the successful use of English.However, they do not believe that correct use of intonation is required for comprehension. Nevertheless, they deem the acquisition of intonation necessary for native-like accent attainment, and most of them aim at achieving native-like intonation use. The greatest number of participants agrees that acquiring and producing English intonation is demanding. A small number of first-year students believe that they can distinguish meanings based on intonation, whereas the fourth-year students' opinion is exactly the opposite. Both groups, however, find it difficult to perceive either falling, rising or complex intonation patterns, yet it can be noticed that the greatest majority regards complex tones as the most problematic to perceive, which goes in line with the actual performance on the perception experiment. The possible explanation for the poor results on the perception testing may be found in the statement regarding the time spent practicing intonation outside university classes, since the majority of participants from both groups reported not spending much time practicing outside regular classes. A slightly larger percentage of the fourth-year students (as opposed to the first-year students) pays attention to intonation while listening to native speakers, yet the greatest percentage of both groups believes that intonation affects the interpretation of meaning as well as that speakers can express their emotions by using appropriate intonation. All in all, the results of the questionnaire seem understandable judging by the results of the perception experiments.

5. Conclusion

The results of the study demonstrated poor level of perception of English intonation by Serbian EFL learners even at the tertiary level. The current state of affairs points to the lack of appropriate learning and practice and underscores the need for adequate intonation training which would incorporate real-life situations and activities focused on the communicative value of intonation. Instruction should equally include perception and production practice, with the aid of modern technology that would provide various materials for intonation training. Furthermore, intonation training should be introduced earlier than college, at the very beginning of L2 learning, with the aim of facilitating acquisition and making students comprehend intonation as an integral part of L2 learning.

The present study had possible limitations in the design of the research instruments. Perhaps the results would have been different had we not chosen multiple choice answers in the perception experiment, since this way the answers were suggestive or too helpful or distracting. Other limitations may have been the number and choice of participants, maybe a different sample would have yielded statistical difference in

other perception tasks. Further research may focus on the effect of explicit instruction, with predominant concentration on communicative goals of intonation learning, as well as on the perception and production of L2 English intonation.

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INTEPRETACIJA ZNAČENJA ISKAZA NA OSNOVU INTONACIJE GOVORNIKA KOD SRPSKIH UČENIKA ENGLESKOG KAO STRANOG JEZIKA

Rezime

Iako se broj studija vezanih za međujezičku fonologiju i usvajanje fonologije stranog jezika stalno povećava, usvajanje intonacije stranog jezika je još uvek nedovoljno istražena oblast primenjene lingvistike, mada je nesporan značaj upoznavanja sa prozodijskim obeležjima ciljnog jezika za sveobuhvatno ovladavanje istim. Naš rad ima za cilj da istraži percepciju intonacije engleskih iskaza kod srpskih učenika engleskog kao stranog jezika, tačnije, fokusirali smo se na analizu postignutog nivoa interpretacije značenja iskaza i emocionalnog stave govornika, na osnovu različitih intonacionih obrazaca iz korpusa. Rezultati su pokazali nizak opšti nivo percepcije intonacije, što objašnjava poteškoće koje studenti imaju pri usvajanju engleskih prozodijskih karakteristika i ukazuje na neophodnost podrobnijeg vežbanja percepcije, koja bi postepeno dovela do napretka u produkciji.

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