Phonetic Portrait of a Ukrainian EFL Teacher: Prosodic Parameters in Academic Discourse

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Abstract:
Particular durable second language (L2) pronunciation distinctions of speakers who belong to the same first language (L1) community serve as their instant audio-identification markers, creating their typical phonetic portrait. Deviations in non-native English as a foreign language (EFL) teacher pronunciation remain a vibrant area of research due to their impact on speech intelligibility and comprehensibility, their pragmatic and emotional potential in oral verbal communication. The purpose of this contribution was to establish standard pronunciation deviations in academic speech of Ukrainian EFL teachers, thus depicting their phonetic portrait. A research methodology included acoustic and auditory analyses of pronunciation of British and Ukrainian speakers of English. The findings showed that Ukrainian EFL teachers display a set of common pronunciation distinctions: on the tonal level of the beginning and the end of the intonation group, tonal range, interval, rate and tone movement change in different parts of the intonation group, volume realization, speech rate; lack of qualitative and quantitative differences in the pronunciation of long and short monophthongs in stressed and unstressed syllables, full pronunciation of unstressed vowels. The results will find their application in EFL teacher education programs and further research of the accented speech nature.

Keywords: English academic discourse, foreign accent, non-native speech, phonetic portrait, prosody, segmental and prosodic features, teachers’ professional identity

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Introduction

Current practices in English as a foreign language (EFL) teacher education include, among other innovations, a significant shift from “the previous rejection of foreign-accentedness as something undesirable to the present greater openness to non-native speech” (Volin, Poesova, & Skarnitzl, 2014, p. 210). Specific distinctions on the segmental and prosodic levels of speech embrace peculiar features of vowel and consonant articulation, widening of a tonal range, tempo, timbre, specific use of intonation expressive means. They indicate the membership of the speakers of a particular national, territorial, regional, demographic, social, or professional community. These distinctions can serve as their instant audio-identification markers. According to Coulthard (2004, p. 432), the pronunciation features of an idiolect constitute the most accurate “linguistic fingerprint” of a speaker as we can measure its acoustic features instrumentally. Thus, the phonetic distinctions of the academic discourse of Ukrainian EFL teachers create their typical phonetic portrait.

The phonetic aspect of Ukrainian EFL teachers’ academic speech has been underresearched. The paper focuses on studying the pronunciation dimensions of Ukrainian EFL teachers’ professional portrait to address this gap. It presupposes distinctive pronunciation variables typical of English academic discourse by the teachers belonging to this ethnic group. It is necessary to establish a set of linguistic markers with which these phonological and phonetic variables correlate to build a conceptual model of a phonetic portrait of Ukrainian EFL teachers.

Theoretical Background

Teachers’ professional identity (TPI) is a vibrant area of current research focusing on TPI formation, the identification of TPI characteristics, and its content (core and peripheral elements) (Archanjo, Barahona, & Finardi, 2019; Beijaard, Meijer, & Verloop, 2004; Rus, Tomaa, Rebegaa, & Apostol, 2013; Varghese, Morgan, Johnston, & Johnson, 2005). Beijaard et al. claim that “identity is not a fixed attribute of a person, but a relational phenomenon” (2004, p. 108). It suggests that the TPI concept involves “a combination of competing interactions between personal, professional and contextual factors” (Rus et al., 2013, p. 316). We support the views that the TPI is inherent to teaching as a professional activity (Archanjo et al., 2019, p. 73) and is “constructed, maintained, and negotiated in an academic community to a significant extent through language and discourse” (Varghese et al., 2005, p. 23). Thus, a cognitive model of the TPI is allegedly a multilevel construct that finds its objectification in teachers’ professional discourse, with teachers’ academic talk predominantly serving the primary means of its representation.

Despite the increased attention to the EFL teachers’ academic talk (Jing & Jing, 2018; Richards, 2017; Sybing, 2019), little research has explored distinctive lingual features as an integral part of EFL non-native teacher professional identity representation. English as a foreign language being the content, the means of teaching (i.e., the language of instruction), and the professional discourse (academic talk) presents a particular challenge for non-native English speaking teachers, especially in the countries belonging to the “expanding circle” (Kachru, 1990). For non-native English speaking teachers, language proficiency is central to their professional identity, representing “the bedrock of their professional confidence” (Murdoch, 1994, p. 254).
Language proficiency as a multidimensional construct (Hulstijn, 2012; Lim, 2018) incorporates pronunciation alongside other integral components: lexical, grammatical, discursive, pragmalinguistic, etc. Stevick claims that “pronunciation is the primary medium through which we bring our use of language to the attention of other people” (1978, p. 145). For this reason, non-native English speaking teachers’ pronunciation constitutes one of the core components in the lingual representation of their TPI, without underestimating other integral parts. The detailed content analysis of EFL non-native teachers’ pronunciation is a means of their professional identity representation. It should focus on such key notions, as an accent, foreign accent, intelligibility, comprehensibility, segmental and prosodic means that make the theoretical background of our research on the phonetic portrait of a Ukrainian EFL teacher.

The starting point for exploring the pronunciation of non-native English speaking teachers belonging to a particular ethnic group – their phonetic portrait – is the concept of a foreign accent. It is essential to differentiate between the following two notions: an accent and a foreign accent. An accent is a set of dynamic segmental and suprasegmental habits of native language speakers that “convey linguistic meaning along with social and situational affiliation” (Moyer, 2013, p. 11). Broadly defined, a foreign accent embraces deviations in the pronunciation of non-native speech compared to native discourse (Gut, 2009, p. 253).

A comparison of two accents will reveal differences of several kinds (Laver, 1994, p. 63). First of all, accents employ definite phonological and phonetic means, and, accordingly, they display differences that include a set of lingual parameters. Here, the term phonological pertains to those phonic means that have a meaning differential value. Simultaneously, the term phonetic covers those peculiarities of speech production, which do not involve any change of meaning. Secondly, users of an accent choose pronunciation forms: 1) social characteristics of the speaker, such as social status, level of education, age, sex, and 2) a particular communicative situation (formal or informal). Thus, an accent displays differences described by a set of parameters relating to social and communicative factors. We could claim that an accent displays features that correlate with phonological, phonetic, social, and communicative dimensions.

To differentiate the terms of an accent and a foreign accent, we should emphasize that the L1/L2 cross-linguistic distance, learner-extrinsic factors (age of acquisition and testing; quantity and quality of input) and learner-intrinsic factors (cognitive abilities, aptitude, motivation) can greatly determine the final quality of the asymptotic performance L2 speakers (Saito, 2018). We could predict that the erroneous pronunciation of those English phonological and phonetic means, which are not available in the Ukrainian phonetic system, constitutes salient features of the Ukrainian English accent.

**Research Methodology**

The research methodology included a comparative analysis of Standard English Pronunciation and Ukrainian EFL teachers’ English speech, auditory analysis carried out by native speakers of English and Ukrainian phoneticians experienced in listening and interpreting English speech, acoustic analysis of tonal, dynamic and temporal prosodic characteristics of texts produced by native and non-native speakers of English.
Carrying out the auditory and acoustic analysis of academic discourse, we analyzed the pronunciation of five native speakers (British university and school teachers) and nine Ukrainian English speakers (university EFL teachers). Moreover, while teaching English Phonetics to prospective EFL teachers in Ukraine, the authors of this study have had numerous opportunities for observation and analysis of Ukrainian English in classroom settings for many years.

The corpus of experimental material included 152 fragments of English academic discourse. We asked the native speakers (standard speech) and non-native speakers (accented speech) of English to read the texts aloud and recorded each item separately. Two native speakers of English and three Ukrainian phoneticians performed the auditory analysis of the experimental material. They evaluated the pronunciation correspondence of the speakers to the English orthoepic norm, identified their accent, ethnic and professional affiliation; qualified their pronunciation legibility, and defined the level of language proficiency in the accented speech as high, mid, or low. The phoneticians were supposed to fix the most persistent and recurrent pronunciation errors as segmental and prosodic deviations in Ukrainian EFL teachers’ English speech. The acoustic analysis of tonal, dynamic, and temporal prosodic characteristics of texts produced by native and non-native speakers of English. We used Praat software, which allows a simultaneous representation of acoustic waveforms and pitch lines to carry out the acoustic analysis.

Results and Discussion

In the focus of our research, there are four lingual dimensions: 1) segmental, 2) suprasegmental/prosodic, 3) voice quality features, 4) specific articulatory/adjustment phenomena. Segmental components refer to individual consonantal and vocalic sounds in a target language. Suprasegmental or prosodic features as “the structure that organizes sound” (Cutler, Dahan, & Donselaar, 1997, p. 142) embrace a wide range of L2 phonetic phenomena, such as word stress, sentence stress, intonation, rhythm, and fluency. Voice quality is the auditory impression made by the specific mechanical setting of the speech organs over stretches of speech (Esling, Wong 1983; Esling 1994; Pennington 1996, p. 156). Coarticulatory or adjustment phenomena comprise consonant or vowel quality change (assimilations and reductions), loss of consonants or vowels (elisions), and even loss of entire syllables in natural-sounding pronunciation in conversational English. So, the stress-timed rhythmic pattern of English causes the modifications of sounds in connected speech and reveals its specificity in Ukrainian EFL teachers’ foreign accent.

The auditory analysis of the experimental material revealed the mispronouncing of particular sounds and sound combinations by Ukrainian EFL teachers. The most common errors are the lack of qualitative and quantitative changes in the pronunciation of long and short monophthongs in stressed and unstressed syllables, full pronunciation of unstressed vowels, nasalization of vowels, etc. We paid particular attention to the complete or partial absence or unreasonable presence in the English speech of Ukrainian EFL teachers of such phonetic phenomena as aspiration, accommodation, quantitative and qualitative reduction, positional length of vowels.
The violation of the rhythmic structure in some utterances that influenced their comprehension and expressiveness characterizes the analyzed academic discourse of Ukrainian EFL teachers. Native English speakers fixed violations in the English words accent distribution by Ukrainian bilinguals. They registered the increase of the number of the syllables in words ending in 
-\text{ed} (wash -- washed /\text{w}\text{ɒʃ}\text{id}/ instead of /\text{w}\text{ɒʃ}\text{i}/; cook -- cooked /k\text{oʊ}k\text{ɪd}/ instead of /k\text{ʊkt}/, etc.), in the word clothes /kl\text{æ}\text{ʊ}\text{ðz}/ the ending -\text{es} often sounds like /kl\text{æ}\text{ðɪz}/. We observed some pronunciation errors in words, where the change of stress affected the part of speech to which they belonged (\text{present} -- \text{present}, \text{import} -- \text{import}).

The study of the melodic patterns violations in the academic speech of Ukrainian EFL teachers focuses on the discrepancies in the tone level, range, interval, rate, and tone movement change in different parts of the intonation group.

Analysis of tone level violations in utterances produced by non-native speakers proves an increase in the tone level of stressed syllables. In this way, the speaker emphasizes the semantic importance of lexical units within the intonation group, marking them with a special rise. It is essential to note that a special rise is pronounced by raising the tone level and to emphasize the semantically relevant word. In this case, the speaker increases the volume of the syllable with a special rise compared with the volume of other stressed syllables in the intonation group.

Analyzing the tone level at the end of the intonation group in the utterances produced by non-native speakers, we register an increase of the tone level compared to the medium-low tone level in the utterances produced by native speakers. The results of the experimental study of the distribution of the tone level at the beginning and the end of intonation groups indicate that its increase makes the utterance less expressive. It may influence its comprehension, and alongside other violations in the pronunciation of units of segmental and suprasegmental levels in other parts of intonation groups, distorts their meaning. Thus, we can interpret the increase of the tone level in the analyzed fragments as an error at the prosodic level, which is one of the features of the phonetic portrait of a Ukrainian EFL teacher.

The auditory analysis of the tonal range violations in English utterances produced by non-native speakers shows a close relationship between the tonal level of the first stressed syllable of the intonation group and the range. An increase of the tonal level of the first stressed syllable of the intonation group always leads to expanding the tonal range.

Since the variability of the tonal range is one of the ways to indicate the importance of the information contained in the intonation groups of utterances and different levels of its expressiveness, the lack of modifications at the tonal range level causes difficulties in the perception of this information and its division into basic and additional. Moreover, a similar realization of the tonal range makes the utterance less emotional.

Therefore, the auditory analysis of the tonal range of the intonation group actualization in the English utterances realized by non-native speakers proves the narrowing of the tonal range of the intonation group. It explains a decrease in the level of expressiveness and pragmatic potential of analyzed utterances. The tendency mentioned above varies according to the degree of
complexity of the deviations registered in these utterances. We can explain this by the violations in the English pronunciation of Ukrainians at the prosodic level and interpret them as mental errors that arise due to insufficient communicative and cognitive experience of the speaker.

The *tonal interval* at the junction of different parts of the intonation contour allows tracing the level of the emotional state of the speaker in the process of communication. The most frequent zone of the tonal interval in the analyzed utterances is the medium interval, which indicates the deviation of the EFL teachers’ pronunciation from the authentic realizations and an insufficient level of their pronunciation culture.

The *rate of tone movement change* in the terminal intonation group reflects both the objective and subjective attitude of the speaker to the utterance. A comparative analysis of the rate of change of the terminal tone movement showed that the percentage of high rate is low, since the categorical statements are not typical to the English speakers. Therefore, it is natural that Ukrainian speakers with a high level of language proficiency have almost the same indicators of this parameter as native English speakers, which proves their high pronunciation culture. The prevalence of the low and medium rate of change of the terminal tone movement in the utterances produced by Ukrainian speakers with a low level of pronunciation proficiency indicates the absence of modifications of this parameter. It does not correlate with the semantic structure of the utterance, which is another proof of the insufficient level of the Ukrainian EFL teachers’ phonetic competence.

The auditory analysis of the utterance stress in the English academic speech produced by Ukrainian EFL teachers proves that the semantic factor determines its distribution. Thus, in the English statement, *The language has begun to reflect this changed relationship*, the native speaker pronounces the word *language* as a separate intonation group realized with a high falling tone. It allows him to emphasize the main idea of the analyzed utterances.

In contrast, in the same statement, *The language has begun to reflect this changed relationship* Ukrainian speakers with medium and low levels of pronunciation proficiency do not pronounce the word *language* with a kinetic tone. The speakers do not separate it into an intonation group. This fact reduced the pragmatic potential of the statement and changed its emotional coloring. Instead of convincing the listener of the positive changes taking place in modern Britain, the speaker states the fact of objective reality and does not express any personal attitude to the events that are of concern to most Britons as a single nation.

The acoustic analysis of the dynamic characteristics of the experimental material proved that the native speakers preferred moderate volume while pronouncing the majority of the utterances (70.73%). We observed the increase of the volume in the analyzed utterances when the native speaker added to them some emotional coloring and emphasized their communicative centers. Besides, we registered the decrease of the volume in those utterances, which rendered the additional information produced by native speakers and Ukrainian EFL teachers with a high level of pronunciation proficiency. It contributed to both semantic and prosodic contrast realization. On the contrary, the increased volume dominated in the utterances produced by Ukrainian EFL
teachers with medium (56.90%) and low (61.94%) levels of pronunciation proficiency. It signals the emotional state of the speaker and indicates his attempt to attract the attention of the listeners. Hence, it is essential to note that in some cases, the increased volume does not ensure the practical realization of the emotional and pragmatic potential of the analyzed utterances.

The study of the tempo in the utterances produced by non-native English speakers showed the dominance of its moderate variety. This type of tempo, combining with the increased volume, signals about the high emotional and pragmatic potential in utterances produced by Ukrainian EFL teachers with a high level of pronunciation proficiency. In contrast, we do not observe the variety of tempo in utterances produced by speakers with medium and low levels of pronunciation proficiency. It prevents the realization of the utterance purpose and does not add any emotional coloring to it.

In the analyzed rhetorical question, What is behind the English obsession with games? the native speaker reflects on the British way of life and culture, expresses his feelings about the British national identity. He asks a question and tries to find an answer to it.

The realization of the same utterance: What is behind the English obsession with games? by a Ukrainian speaker with a high level of phonetic competence indicates that it is close to the pronunciation of a native speaker. The use of high falling tones conveys the excitement of the speaker, his feelings, and emotions. The rising wave-tone movement of the sliding scale makes each subsequent stressed word of the utterance semantically relevant, encouraging the listener to reflect on the political, economic, and cultural problems in the UK today.

The pronunciation of the utterance: What is behind the English obsession with games? by a Ukrainian speaker with a medium level of phonetic competence conveys the feelings of concern and anxiety of the speaker about the existing problems. Though we observed the deviations from the utterance produced by the native speaker, i.e., high tonal beginning of the What, the use of the stepping scale instead of the sliding one. However, such intonation somewhat changes the rhetorical character of the utterance and acquires features of a wh-question.

The realization of the utterance: What is behind the English obsession with games? by a Ukrainian speaker with a low level of phonetic competence completely changes its pragmatic potential. The listeners perceived and decoded it as a question that requires a specific answer. In this case, it loses the rhetorical features and affirmativeness typical to the utterance produced by a native speaker. The excessive number of stressed syllables in the intonation group, pronunciation errors, and mistakes at the segmental level are characteristic features of Ukrainian EFL teachers with a low level of phonetic competence. Besides the prosodic errors mentioned above, we also registered the pronunciation errors on the segmental level. Among the most frequent mistakes are the substitution of the central sonant /w/ with the fricative /v/; the substitution of the pharyngal /h/ with the Ukrainian backlingual /x/; incorrect pronunciation of the definite article before the word that begins with a vowel (ðı/, ðe/, /zı/, /Ze/, /dí/, /de/) instead of /ði/; mispronouncing of the allophone shwa of the phoneme /ə/ and others.
Conclusion

In summary, this paper argued that a phonetic portrait of Ukrainian EFL teachers embraces pronunciation deviations in their academic speech. It constitutes one of the core components in the lingual representation of their professional identity due to pronunciation as a speaker instant audio identification marker in communication. Being a multilevel construct, a phonetic portrait of a non-native English speaker consists of accented phonetic features correlating with segmental and prosodic parameters. The auditory and acoustic analysis of the Ukrainian English academic speech proved that Ukrainian speakers of English exhibit pronunciation deviations on both segmental and prosodic (suprasegmental) levels. The most salient in the phonetic portrait of Ukrainian EFL teachers are prosodic characteristics, namely the tonal level of the beginning and the end of the intonation group, tonal range, interval, rate and tone movement change in different parts of the intonation group, the distribution of the utterance stress and the division of utterances into intonation groups, volume realization, speech rate. The most typical violation at the suprasegmental level is the erroneous intonation contour while providing the basic and additional information that impedes the understanding of the utterance. The reasons for the difficulties in perception and decoding of the Ukrainian EFL teachers’ pronunciation are the lack of tonal (contrast) variation: the variation of tempo and volume in expressing the semantic contrast; the excessive number of stressed words in intonation groups that significantly affects the perception of utterances.

The obtained results are relevant for improving the quality of teaching English pronunciation to prospective EFL teachers in Ukraine. They could be of interest to the professionals involved in EFL teacher training in other national settings.

The study reveals scope for further linguistic research of the perception specifics of Ukrainian English by native speakers, the cognitive mechanism of Ukrainian English foreign accent, the influence of the language mapping of the world on the bilingual accent. Future research could examine L1 pronunciation features in Ukrainian English that influence comprehensibility in intercultural verbal interactions, taking into consideration the growing role of the English language as a lingua franca in intercultural communication.

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