Inter-Lingual Phonic Interference (Segmental Level)

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ABSTRAKT

Tato bakalářská práce se zabývá mezijazykovou fonickou interferenci na segmentální rovině. Cílem dané práce je nalézt a zanalyzovat fonické chyby ukrajinských mluvčích v anglickém jazyce, které jsou způsobeny vlivem mateřského jazyka. V teoretické části jsou popsány a porovnány fonické systémy anglického jazyka a ukrajinského jazyka. Dále obsahuje teoretická část popis interference a příklady chyb. V praktické části se analýzuje mluvený projev sedmi účastníků a jsou popsány nejčastější chyby.

Klíčová slova: Anglický jazyk, ukrajinský jazyk, fonetika, interference, segmentální rovina, výslovnost

ABSTRACT

This bachelor's thesis deals with inter-lingual phonic interference on a segmental level. The aim of this work is to find and analyse phonic mistakes of Ukrainian speakers in the English language that are caused by the influence of the native language. In the theoretical part, the phonetic systems of the English language and the Ukrainian language are described and compared. Additionally, the theoretical part contains a description of interference and examples of errors. In the analysis part, the speech of seven participants is analysed and the most frequent errors are described.

Keywords: The English language, the Ukrainian language, phonetics, interference, segmental level, pronunciation

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I hereby declare that the print version of my Bachelor's thesis and the electronic version of my thesis deposited in the IS/STAG system are identical.

CONTENTS

INTRODUCTION

The role of language should not be underestimated, especially in today's fast-developing world. Language gives freedom of thought, language gives each human the possibility to establish human identity, dreams, and goals. In today's era of globalization, the ability to effectively communicate by speaking two or more languages gives numerous advantages. Bilingualism and multilingualism provide access to career opportunities and intercultural experiences. Language helps to convey information and knowledge but is communication always clear and flawless? Not only speaking a language but also being understood is important. Undoubtedly, there are many factors influencing language production and comprehension. The science that can capture and explain mistakes and nuances in pronunciation is called phonetics.

This thesis focuses on Ukrainian native speakers who speak English as a foreign language. I tried to write the topic in a relatively simple manner so that any individual interested in phonetics could understand the topic. To reach this simplicity, I supported my thesis with tables, figures, and graphs. Apart from that, I divided the thesis into four chapters. The first two chapters are theoretical, they contain information about language interference, classification of language and phonic interference, and characteristics of Ukrainian and English phonic systems (characteristics of vowel and consonant sounds). The third and fourth chapters analyse the English pronunciation of Ukrainian speakers. This analysis aims to study the sounds that are pronounced incorrectly in English words, to find the nature of those errors, to find patterns in the mistakes, and to examine to what extent the results of the analysis will be different from typical presumable mistakes.

Even though I will rely on IPA, Standard British English, writing transcriptions according to it, I will not consider an error sound pattern that is typical for other English varieties (e.g. American English). I will focus specifically on interference errors, which are mainly the influence of the primary language (Ukrainian). Besides that, this analysis is not used for the evaluation of someone's language proficiency.

This topic is relevant to the present time because it may help not only to understand the nuances of pronunciation of the younger generation of Ukrainian speakers but also to better understand the nature of mistakes in the secondary language in general.

I. THEORY

1 LANGUAGE INTERFERENCE

1.1 Definition of Language Interference

The term interference was borrowed by linguists from natural science. Originally, the principle of interference occurred in physics; it was established by Thomas Young and Augustin-Jean Fresnel. In physics, interference is the combination of two or more waves that superpose to form a resultant wave of various amplitudes (Soanes et al. 2008, 741). Later, the term was introduced into linguistics. Weinreich (1953, 1) defined interference as: *"Those instances of deviation from the norms of either language which occur in the speech of bilinguals as a result of their familiarity with more than one language i.e. as a result of language contact."*

Weinreich (1957, 1) points out that phonic interference is about the way a speaker perceives and produces the sounds of one language in the matter of another language. In terms of interference, the language may be *primary* and *secondary*. Weinreich (1957, 1) assumes that primary language causes interference and secondary language suffers interference.

Interference does not always have a negative effect. According to Veselý (1985, 16), when the native language simplifies the acquisition and use of the target language and results in correct language production, it is called positive transfer. For example, when languages share similar writing systems or similarities in vocabulary (Ellis 1994, 304).

2.2 Classification of Language Interference

Researchers have different approaches to language interference. A few possible classifications that are relevant to this research include:

- implicit and explicit interference (Lekova 2010)
- interlingual and intralingual interference (Kráľová 2011)
- phonological, lexical, and grammatical interference (Weinreich 1953)

According to Lekova (2010, 321), the form of interference can be *implicit* and *explicit.* Lekova (2010, 321) states that explicit interference occurs when learners violate the norms of the secondary language by transferring language habits from the primary language. For example, the level of proficiency in the foreign language may affect the extent to which explicit interference is manifested in the speech.

Lekova (2010, 321) believes that during implicit interference, speakers avoid using complex grammatical forms and lexical expressions that may potentially lead to errors, and consequently, the speech becomes impoverished.

According to Kráľová (2011, 11), interference may be classified as *interlingual* and *intralingual*, depending on the deviation from the norm in the speech. The main characteristic of interlingual interference is that it occurs when the system of the primary language influences the system of the secondary language. According to Kráľová (2011, 11), interlingual interference errors cause a conflict between foreign and mother tongue language systems, and intralingual interference errors occur in the foreign language system itself. For example, unlike interlingual interference, which occurs because of the interaction of two language systems, intralingual transfer occurs when the primary language is partially acquired, and different language structures are mixed and produced incorrectly.

Weinreich (1953, 14–65) differentiates three language levels where interference occurs: phonological, lexical, and grammatical. Weinreich (1953, 14) states that phonic interference arises when a bilingual associates the phoneme of the secondary language with phonemes in the primary language, which leads to the production of phonemes of the secondary language according to the phonetic rules of the primary language. For example, bilinguals transfer the phonetic characteristics and intonation patterns of the primary language into the secondary language, which can result in mispronunciations or an accent.

According to Weinreich (1953, 47), lexical interference occurs when the vocabulary of two languages interferes. Weinreich (1953, 47–48) mentions that one of the types of lexical interference may involve loanwords with phonemic adjustments to the language. Weinreich (1953, 47) provides an example: the American Norwegian word *"blakkvalnot"* is a borrowed word for *"black walnut"*. This example shows that Norwegian-Americans, living in the English-speaking environment, tend to borrow certain words and adjust them to Norwegian language.

Another type of interference that is mentioned by Weinreich (1953, 29–46) is grammatical; it involves the use of grammatical features of the native language in the secondary language. This means that bilinguals might transfer the grammatical rules of the primary language into the secondary language. One of the examples provided by Weinreich (1953, 37–38), *"he comes tomorrow home,"* demonstrates the application of the German word order norms in English. In many cases, the meaning of the sentence in the secondary language may be completely changed or even become unintelligible.

2.2.1 Classification of Phonic Interference

U. Weinreich (1953, 18–19) differentiates four types of phonic interference: under-differentiation of phonemes, over-differentiation of phonemes, reinterpretation of distinctions, and phone substitution.

Under-differentiation of phonemes occurs when there is a lack of differentiation between phonemes in the secondary language system (Weinreich 1953, 18). For example, when Ukrainian speakers may consider, the English labio-dental fricative /v/ and bilabial approximant /w/ sound as Ukrainian labio-dental approximant /ʋ/. Another example is when Ukrainian speakers do not distinguish English vowels by length, only slightly lengthening certain vowels in stressed positions and not changing the quality of vowels in unstressed positions because, in the Ukrainian language, there are no short and long vowels as separate phonemes.

Over-differentiation of phonemes occurs when phonological differences of the primary language system are imposed on the sounds of the secondary language system and result in the presence of characteristics that are not required (Weinreich 1953, 18). For example, the Ukrainian language has palatalized consonants /lʲ/ and /nʲ/, and the English language does not have palatalization. Ukrainian speakers may use palatalized consonants in the English language due to over-differentiation of phonemes.

Reinterpretation of distinctions occurs when features of the secondary language system are distinguished by features of the primary language system (Weinreich 1953, 18–19). For example, the speakers of the Ukrainian language may interpret English aspiration /p^h, t^h/ as the consequent pronunciation of two separate phonemes /ph, th/.

Phone substitution occurs when there is a difference in the pronunciation of phonemes that were identified as identical in two language systems (Weinreich 1953, 19). In general, phone substitution means replacing the sound of the secondary language system with a similar sound of the primary language system. For example, Ukrainian bilinguals may pronounce English consonants /d/ /t/ /n/ /s/ /z/ /l/ as dental, when in fact they are alveolar in English.

Kráľová (2011, 14) states that such interference types as under-differentiation of phonemes, over-differentiation of phonemes, and reinterpretation of distinctions have *"(...) properties that are relevant in both S1 and S2 (...)."* The fourth type of interference, *"(...) also affects synchronously redundant properties that become relevant when changing the phonological system (...)."* (Kráľová 2011, 14).

2 ENGLISH AND UKRAINIAN PHONIC SYSTEMS

This chapter provides information about Ukrainian and English systems on a segmental level. It means that I will characterize English and Ukrainian vocalic and consonantal phonemes - the smallest units of sound. The first part of this chapter 2.1 provides characteristics of English and Ukrainian segmental systems separately. The aim of this chapter is to demonstrate differences between the segmental systems and what may potentially cause English-Ukrainian language interference.

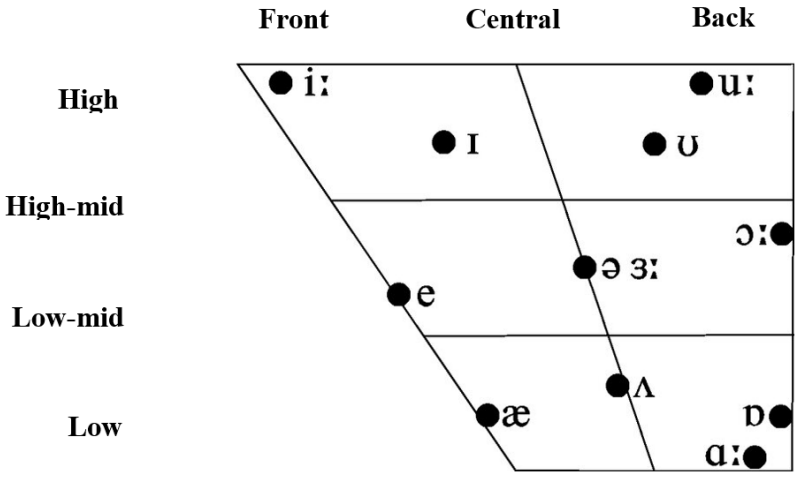
2.1 Characteristics of Ukrainian and English segmental systems

Part 2.1.1 will characterize English vocalic phonemes, part 2.1.2 defines English consonantal phonemes. Parts 2.1.3 and 2.1.4 characterize Ukrainian segmental system. Information provided in this chapter is detailed because the causes of interference may be different, and it is important to examine the subject as precisely as it is possible.

2.1.1 English vocalic phonemes

According to Jones (2006, 8), British English (BBC accent) has five long vowels: /iː/, /ɑː/, /ɔː/, /ɜː/, /uː/, seven short vowels: /ɪ/, /e/, /æ/, /ʌ/, /ʊ/, /ɒ/, /ə/, and eight diphthongs: /eɪ/, /oʊ/, /aʊ/, /ɪə/, /eə/, /ɔɪ/, /aɪ/, /ʊə/. English vowel phonemes are shown on the Cardinal Vowel Quadrilateral in Figure 1. The point where these vowels are placed shows a typical area within which the vowel is pronounced (Jones 2006, 8). In terms of the quality of English vowel phonemes, Skaličková (1974, 49) points out that the realisation of vowels may differ depending on the position in the word. By the place and manner of articulation, English vowels are distinguished in terms of the height of the tongue position: high, mid, and low, and by the degree of opening the mouth: front, central, and back.

Figure 1. BBC English vowel phonemes



Note. Adapted from *English Pronouncing Dictionary* (p. 8), by D. Jones, 2006, Cambridge University Press.

Jones (2006, 9) makes certain remarks regarding vowels in the BBC accent:

- Long vowels and diphthongs become notably shorter when followed by voiceless or fortis consonants such as /p, t, k, tʃ, f, θ, s, ʃ/ (Jones 2006, 9).
- Despite being labelled as a short vowel, the vowel sound /æ/ is relatively long before consonants /b, d, g, dʒ, m, n/ (Jones 2006, 9).
- The /u:/ vowel sound has shifted towards a more front quality with less lip-rounding, which is noticeable among younger speakers (Jones 2006, 9).
- The use of the /ʊə/ diphthong is declining; it is being replaced by /ɔː/ (Jones 2006, 9).
- Triphthongs present challenges, as they are three vowel sequences that typically consist of one diphthong and a schwa. In British English, many triphthongs are pronounced with minimal changes in vowel quality, making them hard for foreign learners to distinguish (Jones 2006, 9).

2.1.2 English consonantal phonemes

A list of the 24 English consonant phonemes and their place and manner of articulation is demonstrated in Table 1 below.

Table 1. English consonants

	Bilabial	Labio-dental	Dental	Alveolar	Post-alveolar	Palatal	Velar	Glottal
Plosive	p b			t d			k g	
Affricate					tʃ dʒ			
Fricative		f v	θ ð	s z	ʃ ʒ		(x)	h
Nasal	m			n			ŋ	
Lateral approximant				l				
Approximant	w				r	j		

Note. Adapted from *English Pronouncing Dictionary* (p. 10), by D. Jones, 2006, Cambridge University Press.

The English language distinguishes between voiceless and voiced consonants. Voiceless consonants are: /p, t, k, f, θ, s, ʃ, h, tʃ/, and their voiced consonant pairs are: /b, d, g, v, ð, z, ʒ, dʒ/ (Jones 2006, 9). The amount of energy used in articulation defines whether the consonant is voiceless or voiced. English has eight terms that characterize the manner of articulation of consonants:

1. **Plosive**

Plosive sounds are produced by blocking a flow of air with a consequent explosion - the release of compressed air. English has three voiced /p t k/ and three voiceless /b d g/ plosive consonants (Jones 2006, 394). /p, t, k/ usually have aspiration – a strong burst of air accompanying the following consonant phonemes. Voiceless stops /p, t, k/ are aspirated at the beginning of a word or a stressed syllable. However, when /l, j, w, r/ follow /p, t, k/ they are devoiced and are pronounced as fricatives. Another situation when /p, t, k/ lack aspiration is when consonant clusters /sp-, st-, sk-/ occur in initial positions. Additionally, voiceless consonants /p, t, k/ make the vowel sounds preceding them shorter in duration within the same syllable (Jones 2006, 9).

2. **Affricate**

Even though affricates are consonants that consist of the plosive sound and end as a fricative, affricates sound as one sound. The English language has one voiceless /tʃ/ and one voiced /dʒ/ affricate (Jones 2006, 11). For the consonants /ʃ, ʒ, tʃ, dʒ/, it is typical lip-rounding (Jones 2006, 9).

3. **Fricative**

Fricatives are consonants produced by forcing air through a narrow channel, making a hissing sound. English has five voiceless /f θ s ʃ h/ and four voiced /v ð z ʒ/ fricatives. Fricatives occur in all positions, excluding /h/, which does not end a syllable (Jones 2006, 203).

4. **Nasal**

Nasal consonants are produced by directing air through the nose while the soft palate is lowered, creating closure in the mouth. English has a bilabial /m/, alveolar /n/, and velar /ŋ/ (Jones 2006, 341).

5. **Lateral Approximant**

Lateral sounds are made when air escapes through the sides of the tongue (Jones 2006, 292). In English, the consonant /l/ has two allophones: a *"clear"* allophone that occurs before vowels and a *"dark"* allophone that occurs before consonants or a pause (Jones 2006, 9).

6. **Approximant**

Approximants are consonants that are made when air flows freely or almost freely. In English, the approximants include the semivowels /j/ and /w/ (Jones 2006, 29).

By the place of articulation, English consonants are characterized as:

1. **Bilabial**

Bilabial sounds are produced by both lips. English bilabials include /p/, /b/, /m/, and /w/ (Jones 2006, 56).

2. **Labio-dental**

Labio-dental sounds are articulated with the lower lip touching the upper front teeth. In English, labio-dental consonants include voiceless /f/ and voiced /v/ (Jones 2006, 288).

3. **Dental**

Dental sounds are produced when the tongue is placed between the upper and lower front teeth. English dentals are voiceless /θ/ and voiced /ð/ (Jones 2006, 137).

4. **Alveolar**

Alveolar sounds are made with the tongue against the alveolar ridge, just behind the upper front teeth. Examples of alveolar consonants include /t/, /d/, /s/, /z/, /n/, and /l/ (Jones 2006, 19).

5. **Post-alveolar**

Post-alveolar sounds are *"(...) made between the upper teeth and front part of the palate"*. Examples include the fricatives /ʃ ʒ/ and affricates /tʃ dʒ/ (Jones 2006, 399).

6. **Palatal**

Palatal sounds are produced with the tongue raised toward the hard palate. In English, /j/ is a palatal consonant phoneme (Jones 2006, 372).

7. **Velar**

Velar consonants *"(...) are produced between the tongue and the soft palate (...)".* English velar consonants include plosives /k g/, and a nasal /ŋ/ (Jones 2006, 542).

8. **Glottal**

Glottal sounds are produced by the movement of the glottis. In a glottal stop, the airflow is stopped completely. In English, the glottal stop is represented as /ʔ/ (Jones 2006, 216).

2.1.3 Ukrainian vocalic phonemes

The Ukrainian language has six vowel phonemes: /ɑ, ɛ, ɪ, i, ɔ, u/. Table 2 shows the method of vowel formation and the place of vowel formation. It is important to clarify that the method of vowel formation means that the back of the tongue may have high, mid, and back positions. Another term, the place of vowel formation means that the tongue changes its position and moves forwards, backwards or remains in the middle (Zhovtobrjukh and Kulyk 1965, 115). Zhovtobrjukh and Kulyk (1965, 115–116) provide an explanation to how the front, central, and back vowels are formed: Front vowels are pronounced in such a way that the tongue moves forward, and the tip of the tongue touches the lower teeth. On the contrary, when pronouncing back vowels, the tongue moves backwards, and for this reason, there is no direct contact with the teeth. In the case of the central vowels, the tongue is placed in the middle and the back of the tongue rises to the palate. In all three cases, the back of the tongue rises to the palate, but the place differs.

As this description shows, the differences between pronunciation of various vowels are quite noticeable.

Table 2. Ukrainian vowel phonemes

Method of vowel formation	Place of vowel formation		
	Front	Central	Back
High	i ɪ		u
Mid	ɛ		ɔ
Back			ɑ

Note. Adapted from *Kurs suchasnoji ukrajinsjkoji literaturnoji movy* (p. 116), by M. A. Zhovtobrjukh and B. M. Kulyk, 1965, Radians′ka shkola.

Zhovtobrjukh and Kulyk (1965, 117–119) give certain remarks regarding vowels in the Ukrainian language:

- The /ɑ/ sound is a back vowel, and the tongue has a low position. In the Ukrainian language, the vowel /ɑ/ never changes qualitatively. It remains consistent in pronunciation and becomes more frontal after palatalized consonants (Zhovtobrjukh and Kulyk, 1965 117).
- The /ɛ/ sound is a front vowel with the mid position of the tongue. /ɛ/ sound becomes more similar to /i/ in several situations: when /ɛ/ is unstressed; when /ɛ/ occurs before syllables with high-pitched vowels; and also, when the tempo of speech is fast (Zhovtobrjukh and Kulyk 1965, 117).
- The /ɪ/ sound is a front vowel with a high position of the tongue. The /ɪ/ vowel becomes more similar to /ɛ/ in the following situations: in unstressed positions and before the syllables with /ɛ/ or /ɑ/ (Zhovtobrjukh and Kulyk 1965, 117–118).
- The /i/ sound is a front vowel, and the tongue position is high. The pronunciation of the /i/ vowel sound does not differ qualitatively in stressed and unstressed syllables (Zhovtobrjukh and Kulyk 1965, 118).
- The back vowel sound /ɔ/ has a middle tongue position and rounded, slightly protruded forward lips. The unstressed /ɔ/ sound tends to be slightly shorter than /ɔ/ in the stressed syllable (Zhovtobrjukh and Kulyk 1965, 118–119).
- The /u/ sound is a back vowel that, during pronunciation, has a high position of the tongue and strongly protruding forward lips. In a stressed syllable, /u/ is slightly longer than in an unstressed syllable (Zhovtobrjukh and Kulyk 1965, 119).

2.1.4 Ukrainian consonantal phonemes

The Ukrainian language has 32 consonant phonemes: 22 plain (hard) consonant phonemes and 10 palatalized (soft) phonemes (Buk, Mačutek, and Rovenchak 2008, 3). Voiced consonants are: /b/, /g/, /d/, /ʒ/, /z/, /dz/, /dʒ/, /dʲ/, /zʲ/, /dzʲ/ and their voiceless pairs are: /p/, /k/, /t/, /ʃ/, /s/, /ʦ/, /ʧ/, /tʲ/, /sʲ/, /ʦʲ/ (Buk, Mačutek, and Rovenchak 2008, 4). Palatalized phonemes include: /j/, /dʲ/, /zʲ/, /lʲ/, /nʲ/, /rʲ/, /sʲ/, /tʲ/, /ʦʲ/, /dzʲ/; the rest of the consonants marked with the superscript *"j"* demonstrated in Table 2 are semi-palatalized (Buk, Mačutek, and Rovenchak 2008, 3–4). In transcription, semi-palatalized consonants are marked with *"J"*. Semi-palatalized consonants are treated as allophones, not as separate phonemes (Buk, Mačutek, and Rovenchak 2008, 4–5). According to Zhovtobrjukh and Kulyk (1965, 125), palatalization is the process when the back part of the tongue moves towards the hard palate.

The distance from the hard palate may vary (Zhovtobrjukh and Kulyk 1965, 125–126). In Ukrainian, semi-palatalized consonants occur mainly before /i/ (Buk, Mačutek, and Rovenchak 2008, 4–5). Consonants /s z ts dz/ are palatalized when they precede semisoft labials as in words *свято* /sʲʊJato/ (celebration), *цвіт* /tsʲʊJit/ (blossom) (Buk, Mačutek, and Rovenchak 2008, 4–5).

The Ukrainian language has sonorants: /ʊ l lʲ m nʲ r rJ j/ (Buk, Mačutek, and Rovenchak 2008, 4). Sonorants are created with the help of voice and airflow (Zhovtobrukh and Kulyk 1965, 121). Sonorants in Ukrainian are voiced, and in other languages, sonorants are almost always voiced due to the manner of articulation. It is worth mentioning that the sonorant /ʊ/ is different from the fricative /v/. Sometimes phoneme /ʊ/ is mistaken for another fricative phoneme /v/, but in Ukrainian, the fricative sound /f/ appears only in loaned and onomatopoetic words (Buk, Mačutek, and Rovenchak 2008, 4).

Table 3. Ukrainian consonant phonemes

		Bilabial	Labio-dental	Dental/-Alveolar	Alveolo-palatal/Post-alveolar	Palatal	Velar	Glottal
Plosive	Plain	p b		t d			k g	
	Palatalized	(pʲ) (bʲ)		tʲ dʲ			(kʲ) (gʲ)	
Nasal	Plain	m		n				
	Palatalized	(mʲ)		nʲ				
Fricative	Plain		f	s z	ʃ ʒ		x	ɦ
	Palatalized		(fʲ)	sʲ zʲ	(ʃʲ) (ʒʲ)		(xʲ)	(ɦʲ)
Affricate	Plain			t͡s d͡z	t͡ʃ d͡ʒ			
	Palatalized			t͡sʲ d͡zʲ	(t͡ʃʲ) (d͡ʒʲ)			
Trill	Plain			r				
	Palatalized			rʲ				
Approxi-mant	Plain		ʋ					
	Palatalized		(ʋʲ)			j		
Lateral Approxi-mant	Plain			l				
	Palatalized			lʲ				

Note. From *Ukrainian. Illustrations of the IPA* (p. 2), by B. Pompino-Marschall, E. Steriopolo, and M. Zygis, 2017, Journal of the International Phonetic Association.

By the place of articulation, Ukrainian consonants are distinguished as bilabial, labio-dental, dental, alveolar, post-alveolar, palatal, velar, and glottal.

By the manner of articulation, Ukrainian consonants may be distinguished as plosive, nasal, fricative, affricate, trill, approximant, and lateral approximant.

2.2 Comparison of Ukrainian and English segmental systems

In this part of the thesis, I compare the phonic systems of the English and Ukrainian languages on a segmental level. Besides that, I analyse potential errors that bilinguals might have. The purpose of this comparison is to identify problematic phonemes for Ukrainian speakers. This analysis is mostly based on my observations, and the process of comparison derives from Kráľová's (2011, 23–27) differential description.

2.2.1 Vocalic subsystem

The following list demonstrates the differences between Ukrainian and English vocalic subsystems:

a) The Ukrainian language system contains 6 vowel phonemes (Buk, Mačutek, and Rovenchak 2008, 3): 6 monophthongs, while English has 20 vowel phonemes: 12 monophthongs and 8 diphthongs (Jones 2006, 8). The English language has more vowel phonemes which may already predict various interference errors in vocalic subsystem.
b) In the English language, there are short and long vowels. According to Bybee (2001, 43), long vowels occur before voiced consonants, and short vowels occur before voiceless ones. In the Ukrainian language, long and short vowels are absent.
c) In the English language system occurs diphthongization. Ukrainian vocal phonemes do not have the diphthongization trait.
d) English vowels tend to undergo a reduction in unstressed syllables (Jones 2006, 549), unlike Ukrainian vowels.
e) The Ukrainian language does not have central vowels, whereas the English language has this type of vowels.

2.2.2 Consonantal subsystem

The following list demonstrates the differences between Ukrainian and English consonantal subsystems:

a) The English language system contains 24 consonant phonemes (Jones 2006, 1). The Ukrainian system has 32 consonant phonemes (Buk, Mačutek, and Rovenchak 2008, 3–4).
b) The consonants of the Ukrainian language are characterized by palatalization. Palatalization is not typical of the English language (see Table 1, Table 3).

c) In the English language, final voiced consonants do not lose their voicing, and in the Ukrainian language as well.

d) Incorrect pronunciation of English voiced consonants may lead to a change in meaning, but this is not typical for Ukrainian.

e) English dental fricatives /θ/ and /ð/ do not occur in Ukrainian.

f) In the English language, the pronunciation of the consonants /t/, /d/, /n/, and /l/ is alveolar, whereas in Ukrainian it is mostly dental.

g) English consonant phonemes undergo aspiration in the stressed syllable before vowels (Jones 2006, 11). In the Ukrainian language, there are no aspirations and plosives.

h) There is no fricative /x/ in English, but it occurs in Ukrainian.

i) Ukrainian has the labio-dental approximant /ʋ/ that represents the *"v"* consonant (Buk, Mačutek, and Rovenchak 2008, 4). The English language has bilabial /w/ and fricative /v/.

j) The English consonant *"l"* can be realized in two ways: 1. as a lateral approximant /l/, in which air escapes from the sides of the tongue; 2. as a dark *"l"* /ɬ/, which has similarities with a /u/ vowel (Roach 2009, 48). The Ukrainian language has a dental /l/ consonant and a palatalized /lʲ/ consonant.

2.3 Ukrainian-English phonic interference

In this part, I provide common examples of mistakes in English pronunciation made by Ukrainian speakers. The following examples are based on my own observations and comparison of two phonic systems. It is important to note, that presumable errors may occur or may not - each case is individual.

2.3.1 Vocalic subsystem

The following examples demonstrate potential mistakes in vocalic subsystem made by Ukrainian speakers:

a) English front vowel sounds /æ/ and /ə/ are usually replaced by the vowel sound /ɛ/ because /æ/ and /ə/ do not occur in Ukrainian and /ɛ/ is the most similarly sounding alternative.

b) Ukrainian speakers may have difficulties distinguishing between English sounds /ɔː/ and /ɒ/ and may use one sound for both, typically /o/. The reason may be the same as in *a)*.

c) The vowels /ɪ/ and /iː/ are most likely pronounced as /i/, because Ukrainian speakers may have difficulties with differentiating and producing long and short vowels, which are absent in the Ukrainian language system.

d) English vowels /ʌ/, and /ɑː/ may be pronounced as Ukrainian /a/ because central and long vowel phonemes do not occur in Ukrainian.

e) Diphthongs /eɪ/ /aɪ/, and /ɔɪ/ may be pronounced by Ukrainian speakers as /ej/, /aj/, /oj/ as the combination of a vowel phoneme and /j/ is common for the Ukrainian language.

f) Diphthong /eʊ/ may be pronounced by Ukrainian speakers as /oʊ/. The reason may be the same as in *e)* – finding more common patterns.

g) Diphthongs /ɪə/, /ʊə/, and /eə/ may be potentially pronounced as /ir/, /ur/, and /er/ because schwa is absent in the Ukrainian language and for this reason it is very likely to be replaced with /r/.

2.3.2 Consonantal subsystem

The following examples demonstrate potential mistakes in consonantal subsystem made by Ukrainian speakers:

a) Fricatives /θ/ and /ð/ are very likely to be replaced by sounds /s/ and /z/, /f/ and /ʋ/ because there is a need to replace unknown consonant phonemes with the most similar voiced or voiceless consonants.

b) Nasal /ŋ/ also has no analogy in Ukrainian and therefore will most likely be replaced by /n/ or /g/, or both consonants will be consistently pronounced.

c) The sounds /w/ and /v/ are likely to be both pronounced as a labio-dental approximant /ʋ/ because of the differences between consonantal subsystems.

d) The sounds /p/, /k/, and /t/ are likely to be pronounced without aspiration.

e) The /h/ sound may be replaced by the harsher and more distinct /x/ sound.

f) The pronunciation of the sounds /t/, /d/, /l/, and /n/ is likely to be dental.

g) The English language has two *"l"* and a dark *"l"* [ɫ]. A typical Ukrainian mistake is to pronounce both sounds as /l/.

I ANALYSIS

3 RESEARCH METHODOLOGY

3.1 Objectives

The primary objective of the research is to analyse the English pronunciation of Ukrainian native speakers. I focus on the cases of negative phonic interference on a segmental level. As the first step, I classify the pronunciation errors into interference and non-interference and further the interference errors into vocalic and consonantal. After that, I classify pronunciation into four Weinreich's types of interference: under-differentiation of phonemes, over-differentiation of phonemes, reinterpretation of distinctions, and phone substitution. The whole process of analysing the mistakes is performed by a linguist, the author of the thesis. Even though an additional analyst, especially a native English speaker would make the outcome of the analysis more precise by confirming or disproving each statement, the speech of each participant was analysed as carefully as possible.

3.2 Sample

The group of analysed participants consists of five female and two male speakers. Each participant is a Ukrainian native speaker. All participants come from different regions of Ukraine: the Western, the North-Eastern, and Eastern regions. Several participants coming from the North-Eastern and Eastern regions have additionally spoken the Russian language their whole lives. The age range of the participants lies between twenty and twenty-two years old. In terms of occupation, two participants are TBU linguistics students, the third participant is a student at another university, the fourth participant is an economics TBU student, the fifth participant is a multimedia communications TBU student, and two other participants are programmers. Each participant has a sufficient level of English for business communication. None of the participants lived in an English-speaking environment, but all participants experienced communicating with native English speakers at least once. All participants voluntarily agreed to participate in the research and provided written informed consent.

3.3 Method

In the methodology of the research, perceptual analysis is used. I talked to participants for three to five minutes, listened to their responses, and focused on pronunciation mistakes they made in English. I was taking notes of all the mistakes I had noticed in the meantime. I made a list of all the mistakes of each speaker, classified them into types described in the

objectives, quantified them, and compared the types of mistakes and their occurrence among speakers.

4 RESULTS

In this chapter, I present the results of the analysis of seven participants as described in Chapter 3: Research Methodology. At the end of this chapter, I will summarize the data.

4.1 Participant 1

In terms of consonantal interference errors, the most prominent feature of the pronunciation of the first participant was the absent aspiration of the /p, t, k/ consonants. For example, plosives in the initial positions of the words *term, caused, and period* were pronounced without the realization of compressed air. In the fast speech, /w/ in initial positions, as in *which*, *with* was pronounced as labio-dental approximant /ʋ/. In the word *however* [ˌhaʊˈevəʳ], both /w/ and /v/ were pronounced as /w/. Another error occurred in the end position of a word *with*, in which the speaker pronounced the consonant phoneme /z/ instead of the fricative /ð/. The speaker also pronounced trill /r/ in the word *throughout*. Additionally, in the process of speech frequently occurred devoiced consonant phonemes in the final positions. When the consonant in the final position was the same as in the initial position of the following word, assimilation occurred in the phrase *planet to* which sounded as [ˈplænɪtuː]*.

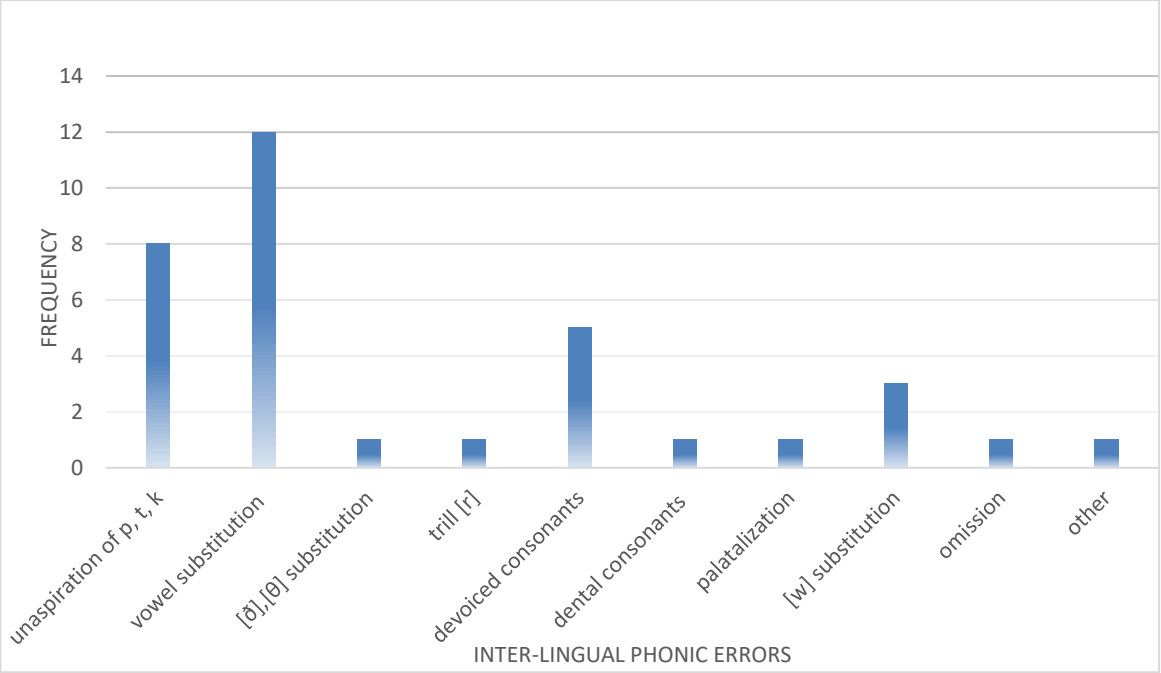
The speaker's vocalic interference errors frequently occurred in words with diphthongs. For example, instead of diphthongs /əʊ/, /oʊ/, the speaker said /ɔː/ in words: *global and homes.* And vice versa, diphthong /oʊ/ occurred in the word *causing* [kɔːzɪŋ] and sounded more like [koʊzɪŋ]*.

The diphthong /ɪə/ was pronounced as /iɑ/ in words *near, atmosphere*. Besides that, the word *near* [nɪəʳ] was pronounced with palatalized /nʲ/ as [nʲiɑ]. The situation where the participant pronounced /ɔː/ instead of /ɜː/ was noticeable in such words as *world* and *surface*.

The long vowel phoneme /iː/ was pronounced instead of /ɪ/ in the word *shift.*

Figure 2 below demonstrates the most common errors and their frequency. The most frequent mistakes were vowel substitution (twelve times), unaspirated consonants (eight times), and devoiced consonants (five times).

Figure 2. Participant 1 – Inter-lingual phonic errors



4.1.1 Classification of Errors 1

Further are demonstrated interference errors of participant number one according to Weinreich's (1953, 18–19) three types of phonic interference **(**a reinterpretation of distinctions is absent**)**:

Under-differentiation of phonemes

The participant's tendency to leave /p, t, k/ consonants unaspirated is an example of under-differentiation of phonemes as there was a failure to differentiate /p, t, k/ and /p^h, t^h, k^h/. Under-differentiation occurred in the word *however* [ˌhaʊˈevər], where both /w/ and /v/ were pronounced as /w/. Pronouncing /z/ instead of fricative /ð/demonstrates under differentiation too. Pronouncing /ɔː/ instead of /ɜː/ in words like *world* and *surface* demonstrates another example. The pronunciation of diphthong /ɪə/ as /iɑ/ shows that the speaker replaced short vowels and schwa with more known phonemes. A similar situation occurred in the situation where the speaker said /ɔː/ instead of diphthongs /əʊ/ and /oʊ/.

Over-differentiation of phonemes

Devoiced consonant phonemes occurring frequently in the final positions of words may be examples of over-differentiation of phonemes because the speaker assumed that certain phonemes had to be devoiced. Palatalized /nʲ/ is another example of over-differentiation of phonemes.

Phone substitution

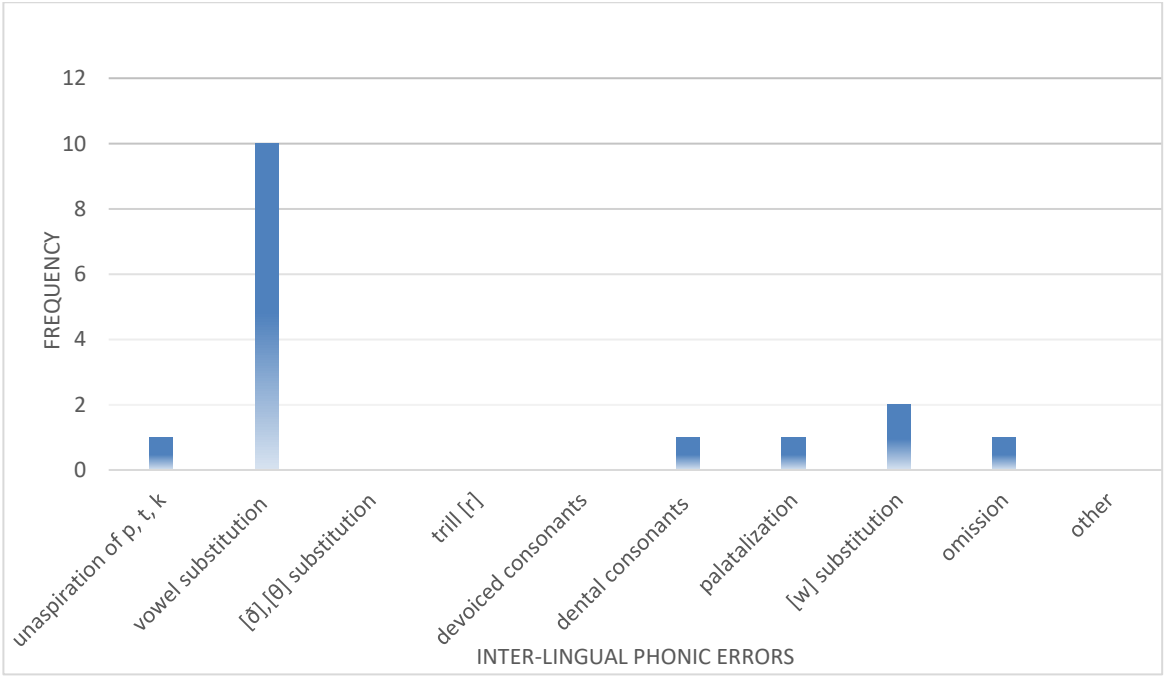
The incorrect realization of /r/ is the first example of phone substitution. The second example includes the pronunciation of the long vowel phoneme /i:/ instead of /ɪ/ as in the word *shift*.

4.2 Participant 2

In terms of consonantal interference errors, the second participant only did not aspirate the /t/ consonant in the initial position of the word *temperature*. Vowel interference errors prevailed over consonant ones. The following examples simultaneously contain vowel and consonant interference errors: the words *world* [wɜ:ld], *worst* [wɜ:st] sounded more like *world* [ʊɔ:ld]*, *worst* [ʊɔ:st]* with Ukrainian labio-dental approximant /ʊ/ and vowel phoneme /ɔ:/. In terms of diphthongs, /əʊ/ and /aɪ/ were pronounced more like /ɔ/ and /aj/: *home* [hɔm]*, *coal* [kɔl]*, *guide* [gajd]*. Diphthong /əʊ/ in a word *followed* [ˈfɒləʊd] was replaced on diphthong /oʊ/ and followed sounded more like [ˈfɒloʊd]*.

In terms of vowel length, words *simple* [ˈsɪmpᵊl] and *switch* [swɪtʃ] sound more like [ˈsi:mpəl]* and [swi:tʃ]*. As was shown in two previous examples, the speaker tends to pronounce the long vowel phoneme /i:/ instead of the short /ɪ/. The speaker did not pronounce short /ɪ/ in the word *average* [ˈævᵊrɪdʒ] either; it was pronounced more as [ˈævərədʒ]*. Another word, *million* [ˈmɪljən], was pronounced like [ˈmilən]*. The following figure 3 shows, that the most frequent mistakes were: vowel substitution (ten times), and /w/ substitution (two times).

Figure 3. Participant 2 – Inter-lingual phonic errors



4.2.1 Classification of errors 2

Further are demonstrated interference errors of participant number two according to Weinreich's (1953, 18–19) three types of phonic interference (reinterpretation errors are absent):

Under-differentiation of phonemes

The participant's tendency to leave the /t/ consonant unaspirated is an example of under-differentiation of phonemes. The third example of under-differentiation is /w/, pronounced as /ʋ/. Pronouncing *average* as [ˈævərədʒ]* instead of [ˈævərɪdʒ] is another example of under-differentiation. Substituting /ɜː/ for /ɔː/ demonstrates under-differentiation as well. Pronouncing diphthongs /əʊ/ as /ə/ and replacing the diphthong /əʊ/ with /oʊ/ are other examples.

Over-differentiation of phonemes

Pronouncing *million* as [ˈmiləɳ]* instead of [ˈmɪljən] and omitting /j/ is an example of over-differentiation of phonemes. Another example is pronouncing /aɪ/ as /aj/.

Phone substitution

Pronouncing the long vowel phoneme /iː/ instead of the short /ɪ/ in words like *simple* and *switch* is the first example of phone substitution. Pronouncing *average* as [ˈævərədʒ]* instead of [ˈævərɪdʒ] is the second example.

4.3 Participant 3

The third participant pronounced certain sounds as palatalized and semi-palatalized. For example, the word *decade* [ˈdekeɪd] was pronounced as [ˈdʲekeɪd]*, *individuals* [ˌɪndɪˈvɪdʒuəls] sounded like [ˌɪndʲiˈvɪdʒuəls]*, and *degree* [dɪˈgriː] sounded as [dʲiˈgriː]*. It is notable that after palatalized /dʲ/, vowel phoneme /ɪ/ was changed to /i/. Two other words, *need* [niːd] - was pronounced with dental palatalized /nʲ/ as [nʲiːd]* and *since* [sɪns] sounded like [sʲins]. Semi-palatalized /tʃJ/ occurred in the word *much* [mʌtʃ]. It is important to note that, despite multiple examples, the palatalization of the sounds /dʲ/, /nʲ/, /sʲ/, and /tʃJ/ was not persistent, and even the same word could be pronounced differently without palatalization. In some cases, the nasal /ŋ/ was pronounced as /nk/, as in the word *heating*.

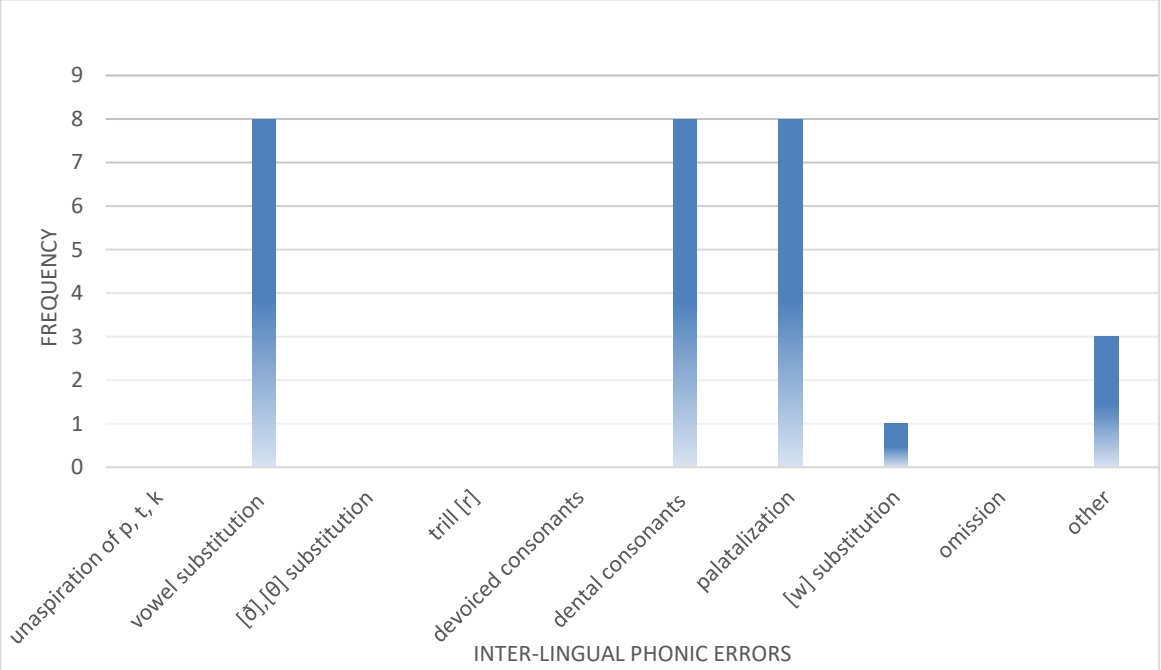
The speaker also pronounced the word *twenty* [ˈtwenti] as [ˈtʊenti] with a labio-dental approximant /ʋ/.

In terms of vowel interference errors, diphthong /əʊ/ in *also* [ˈɔːlsəʊ] sounded more like [ˈɔːlsɔ]*. Low front vowel phoneme /æ/ in the word *natural* [ˈnætʃʳəl] sounded more like [ˈneitʃʳəl]*. The word *electronic* [ˌelekˈtrɒnɪk] was pronounced as [ˌælektrɒnɪk]*, where /e/

was substituted with /æ/. A similar error occurred in the word *electric* [iˈlektrık] which sounded as [ˈælektrık]* - /æ/ was pronounced instead of /i/.

Figure 4 below shows that the most frequent errors were: vowel substitution (eight times), palatalization (eight times), and dental consonants are, in this case palatalized consonants because they are pronounced in Ukrainian in this way. Other mistakes include several cases of nasal /ŋ/ substitution.

Figure 4. Participant 3 – Inter-lingual phonic errors



4.3.1 Classification of errors 3

Further are demonstrated interference errors of participant number three according to Weinreich's (1953, 18–19) four types of phonic interference:

Under-differentiation of phonemes

Labio-dental approximant /ʋ/ instead of the standard /w/ sound demonstrates under-differentiation as well. Pronouncing diphthong /əʊ/ in *also* as [ˈɔːlsɔ]* and low front vowel phoneme /æ/ in *natural* as [ˈneitʃᵊrᵊl]* indicate under-differentiation as well.

Over-differentiation of phonemes

The pronunciation of /dʲ/, /nʲ/, /sʲ/, and /tʃJ/ falls under the over-differentiation of phonemes. The substitution of /e/ for /æ/, as in *electronic* and *electric,* is another case of over-differentiation of phonemes.

Phone substitution

The substitution of /i/ for /ɪ/ after palatalized /dʲ/ is the first case of phone substitution. Pronouncing certain sounds as palatalized and semi-palatalized, such as /dʲ/ in *decade*, /nʲ/ in *individuals,* and /tʃJ/ in *much*, demonstrates phone substitution as well.

Reinterpretation of distinctions

Reinterpretation of distinctions in this case is the pronunciation of English alveolar consonants as dental.

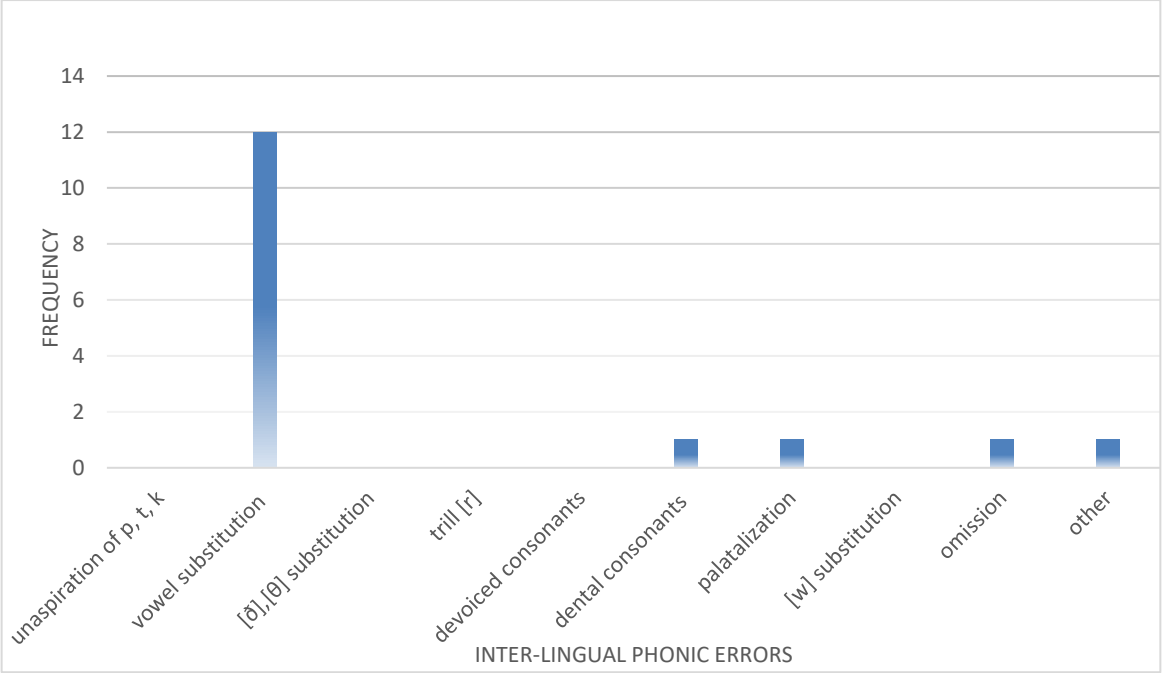
Other errors include pronouncing /ŋ/ as /nk/.

4.4 Participant 4

The fourth participant made mainly vowel interference errors, such as pronouncing the word *less* [les] as [læs]*. Regarding schwa /ə/, the following changes: *affect* [əˈfekt] was pronounced like [ˈefekt]* with the schwa /ə/ turning into an /e/ sound. Similarly, *weather* [ˈweðər] sounded like [ˈwather], and *particularly* [pəˈtɪkjələli] sounded more like [pəˈtɪkuləli]*. Diphthong /əʊ/ was pronounced as /ɔ/. For example, *mostly* [ˈməʊstli] was pronounced more as [mɔstli]*, omitting the schwa. Diphthong /aɪ/ in the word *decline* [dɪˈklaɪn] was pronounced as [dɪˈkla:jn]*, elongating /a:/ vowel phoneme and replacing /ɪ/ with /j/. Another diphthong /ɪə/ as in the word *vehicle* [ˈvɪəkᵊl] sounded more like [ˈvi:kᵊl]*, simplifying the diphthong to a long vowel sound /i:/. The word *surface* [ˈsɜːfɪs] sounded more like [ˈsɜːfes]*, with the final /ɪs/ turning into /es/. In terms of vowel length, *release* [rɪˈli:s] as [rɪlɪs], where the /i:/ became shortened to /ɪ/ and the word *near* [nɪər] was pronounced as [nʲiər]*, with palatalized /nʲ/ and /i/ vowel phoneme. Another word, *improve* [ɪmˈpru:v], was pronounced more as [ɪmˈpruv]*, where /u:/ became /u/.

In several cases, consonant interference errors occurred in the speech. For example, nasal /ŋ/ was pronounced as /nk/ in several words. For example, *long* [lɒŋ] sounded as [lɒnk]* with an added /k/ sound and *contributing* [ˈkɒntrɪbju:tɪŋ] sounded more like [ˈkɒntrɪbju:tɪnk]*. The word *individual* [ˌɪndɪˈvɪdʒuəl] was pronounced as [ˌɪndɪˈvɪduəl]*, omitting the /ʒ/ consonant phoneme. Figure 5 below shows that the most frequent error was sound substitution (twelve times).

Figure 5. Participant 4 – Inter-lingual phonic errors



4.4.1 Classification of errors 4

Further are demonstrated interference errors of participant number four according to Weinreich's (1953, 18–19) three types of phonic interference (reinterpretation of distinctions in absent):

Under-differentiation of phonemes

Pronouncing diphthong /əʊ/ as /ə/ and changing /ɪə/ to /i:/ demonstrate under-differentiation of phonemes. Simplifying the diphthong /ɪə/ to a long vowel sound /i:/ is another example of under-differentiation.

Over-differentiation of phonemes

The omission of the /ʒ/ consonant phoneme is an example of over-differentiation of phonemes. Pronunciation of /nʲ/ is another example of over-differentiation of phonemes. Pronouncing /æ/ instead of /e/ indicates over-differentiation, as the speaker differentiates both vowel sounds but decides to replace the sound with a similar one. Pronouncing diphthong /aɪ/ as /a:j/ and replacing /ɪ/ with /j/ is another example of over-differentiation.

Phone substitution

Pronunciation of /e/ instead of /ə/ or /i/ suggests phone substitution. Another example of phone substitution is the /i:/ shortened to /ɪ/ and /ɪ/ pronounced as /e/. Elongating /a:/ and shortening /u/ phonemes are also phone substitutions. Another interference mistake that is not included in this classification is pronouncing nasal /ŋ/ as /nk/.

4.5 Participant 5

In the speech of the fifth participant, /p, t, k/ consonants were not aspirated. For example, plosives in the initial positions of the words *type, can, and planet* were pronounced without the realization of compressed air. The consonant phoneme /h/ sounded like the Ukrainian velar fricative /x/; the word *help* [help] sounded like [xelp]*.

The speaker pronounced the fricatives /θ/ and /ð/ as voiceless /s/ and voiced /z/, respectively. For example, *the* [ðə] was pronounced as [zə], and the word *thing* [θɪŋ] sounded like [sɪn]*. The nasal consonant /ŋ/ was pronounced as /n/ and less frequently as /nk/. For example, the word *long* [lɒŋ] sounded as [lonk]* and *warning* [ˈwɔːnɪŋ] sounded as [ˈʋɔːrnin]*, where also occurred Ukrainian /ʋ/. Another example where the speaker pronounced /ʋ/ and additionally substituted /s/ for /z/ occurred in the word *worsen* [ˈwɜːsən], which sounded more like [ˈʋozɛn]*.

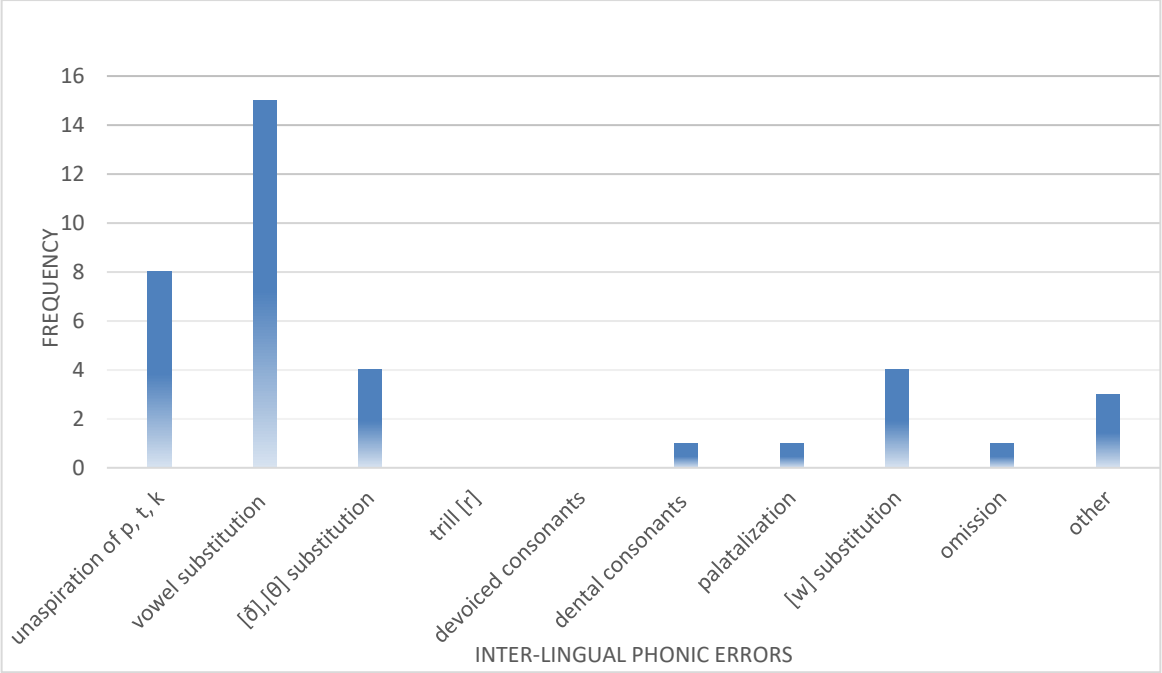
In terms of vowel interference errors, the English vowel phonemes /æ/, /ə/, and /ɜː/ were frequently pronounced as /ɛ/. For example, the mid front vowel /ɛ/ occurred in the word *about* [əˈbaʊt], which sounded as [ɛbˈbaʊt]*. Two other examples include words *urgent* [ˈɜːdʒənt] that were pronounced as [ɛrdʒɛnt]* and *average* [ˈævᵊrɪdʒ] that sounded more like [ˈɛvɛrɛdʒ]*. And vice versa, the vowel phoneme /ɛ/ in the word says [ˈsɛz] was substituted and pronounced as /ej/ – [ˈsejs]*. In one case, /ə/ was replaced by /o/: *milion* [ˈmɪljən] was pronounced like [ˈmilion]*. The word *milion* [ˈmilion]* also demonstrates that the vowel phoneme /i/ was pronounced instead of /ɪ/.

Diphthong /əʊ/ was pronounced as /ɔ/. For example, *home* [həʊm] sounded more like [hɔm]*, and *over* [ˈəʊvə] was pronounced as [ˈɔvɛr]*.

The diphthong /ɪə/ was pronounced as /iɑ/ in the word *sphere*.

Figure 6 below demonstrates that the most frequent errors were vowel substitution (fifteen times), and the absent aspiration of /p, t, k/ (eight times).

Figure 6. Participant 5 – Inter-lingual phonic errors



4.5.1 Classification of errors 5

Further are demonstrated interference errors of participant number five according to Weinreich's (1953, 18–19) three types of phonic interference (reinterpretation of distinctions did not occur):

Under-differentiation of phonemes

The participant's tendency to leave /p, t, k/ consonants unaspirated is an example of under-differentiation of phonemes, as there was a failure to differentiate /p, t, k/ and /p^h, t^h, k^h/. Changing English vowel phonemes /æ/, /ə/, /ɜː/ to /ɛ/ or /o/ are another type of under-differentiation of phonemes. Diphthong /əʊ/ pronounced as /ɔ/ and /ɪə/ that was pronounced as /iɑ/ are other examples. Substitution of /w/ for /ʊ/ is an under-differentiation of phonemes as well. Pronouncing /θ/ and /ð/ as voiceless /s/ and voiced /z/ also demonstrates under-differentiation. The substitution of /h/ with the Ukrainian velar fricative /x/ is another example.

Over-differentiation of phonemes

Omitting the /j/ phoneme is an example of over-differentiation.

Phone substitution

The vowel phoneme /i/ that was pronounced instead of /ɪ/ is an example of phone substitution.

Another example of this classification is pronouncing nasal /ŋ/ as /n/ and /nk/.

4.6 Participant 6

In the speech of the sixth participant, /p, t, k/ consonants were not aspirated. For example, all plosives in the words *intense, conditions, and parts* were pronounced without the realization of compressed air. In some cases, the speaker pronounced the fricative /ð/ as /z/. For example, *the* [ðə] was pronounced as [zə]. Additionally, in the process of speech, often occurred final devoicing as in words *found* [faʊnt]* and *red* [ret]*.

The consonant phoneme /w/ was frequently pronounced as /ʋ/ in words *what* [ʋɒt]*, *weather* [ˈʋeðə]*, and others. Immediately several interference errors occurred in the word *global* [ˈgləʊbˠl]: it was pronounced as [ˈɦlobal]* with Ukrainian glottal fricative /ɦ/, substituted diphthong /əʊ/ and vowel phoneme /ə/ for /o/ and /a/. The speaker pronounced *revolution* [ˌrevəˈluːʃˠn] with dental /l/. In terms of vowel length, the words *businesses* [ˈbɪznɪsɪz] and *switch* [swɪtʃ] sounded more like [ˈbiznɪsɪs] and [swiːtʃ]. As was shown in two previous examples, the speaker tended to pronounce the vowel phoneme /i/ instead of the short /ɪ/.

Diphthong /əʊ/ was often pronounced as /ə/: *also* [ˈɔːlsəʊ] sounded like [ˈɔːlsɔ]*, and *home* [həʊm] sounded like [hɔm]*. The diphthong /ɪə/ was pronounced as /iɑ/ in words *near, severe*. Another diphthong, /əʊ/, was pronounced as /oʊ/ in the word *followed*.

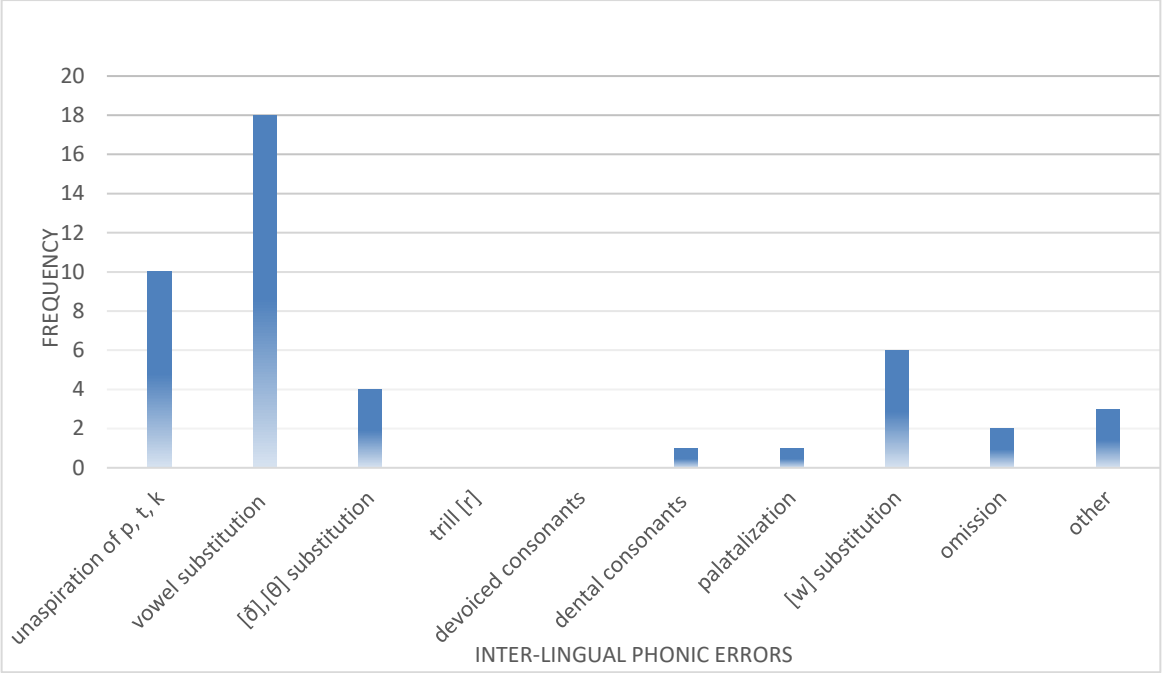
The English vowel phonemes /ə/ and /ɜː/ were frequently pronounced as /ɛ/. For example, /ɛ/ occurred in the word *matches* [ˈmætʃəz] that sounded like [mɛtʃs]*, and *consequences* [ˈkɒnsɪkwənsəz] sounded more like [kansikvɛnsəz]*. The vowel phoneme /ɜː/ sounded more like /ɔː/, as in word *worse*. The word says [ˈsɛz] was pronounced as /ej/ - [ˈsejs]*.

In some cases, participants replaced /æ/ and /ə/ with /ʌ/ and /a/. For example, *natural* [ˈnætʃˠrˠl] sounded more like [ˈnʌtʃural]*.

In the following words, the speaker omitted /j/: *January* [ˈdʒænjuəri] sounded more like [ˈdʒænuəri]*, and *insulation* [ˌɪnsjəˈleɪʃˠn] sounded more like [ˌinsuleɪʃˠn]*.

Figure 7 below shows that the most frequent mistakes were: vowel substitution (eighteen times), absent aspiration of /p, t, k/ (ten times), and /w/ substitution (six times).

Figure 7. Participant 6 – Inter-lingual phonic errors



4.6.1 Classification of errors 6

Further are demonstrated interference errors of participant number six according to Weinreich's (1953, 18–19) four types of phonic interference:

Under-differentiation of phonemes

The participant's tendency to leave /p, t, k/ consonants unaspirated is an example of under-differentiation of phonemes, as there was a failure to differentiate /p, t, k/ and /p^h, t^h, k^h/. Pronouncing /z/ instead of fricative /ð/ is also under-differentiation, showing a lack of distinction between these sounds. Additionally, pronouncing /ə/ and /ɜː/ as /ɛ/ is another example of under-differentiation. Pronouncing the English vowel phoneme /ɜː/ as /ɔː/ demonstrates under-differentiation. Another example is replacing /æ/, /ə/ with /ʌ/ and /a/. Substituting /w/ for /ʊ/ is a further example of the under-differentiation of phonemes. Additionally, replacing /h/ with the Ukrainian glottal fricative /ɦ/ and changing the diphthong /əʊ/ to /ɔ/ demonstrate under-differentiation. Pronouncing diphthong /ɪə/ as /iɑ/ also falls under the category of under-differentiation.

Over-differentiation of phonemes

The final devoicing in words is the over-differentiation of phonemes. Omitted /j/ is another example.

Phone substitution

Changing the word /ɛ/ to /ej/ represents instances of phone substitution.

Reinterpretation of distinctions

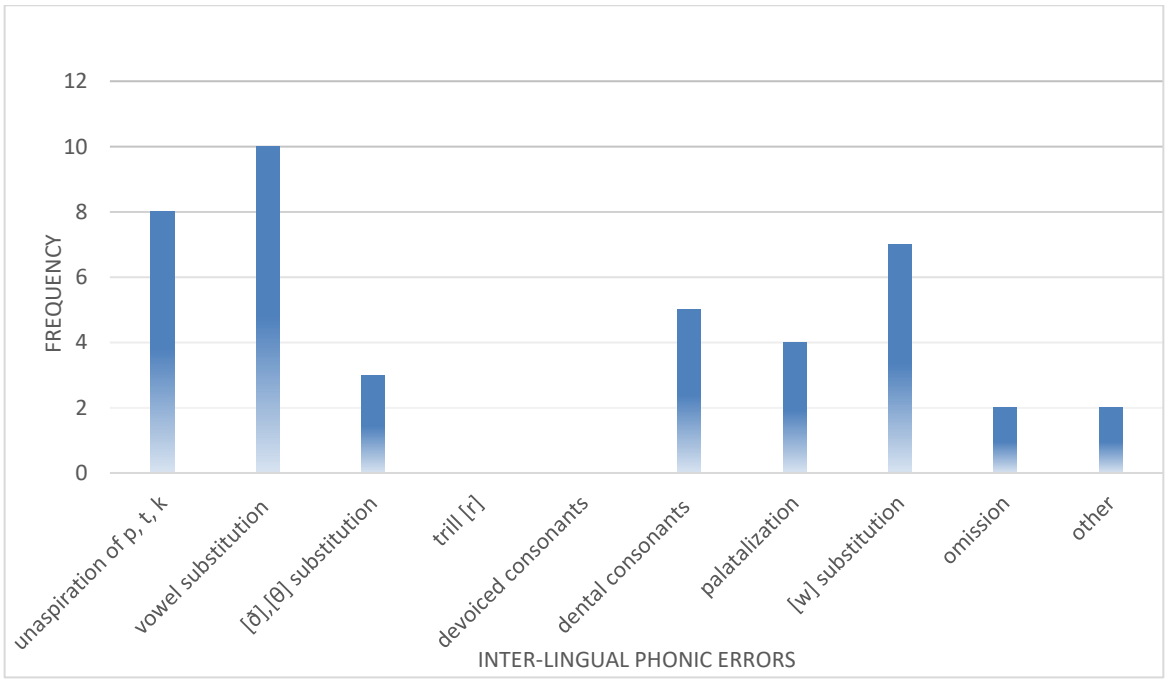
Dental sounds fall under the category of reinterpretation of distinctions.

4.7 Participant 7

The seventh participant made quite typical interference errors. The first mistake was the absent aspiration of the /p, t, k/ consonants throughout the speech. Another error was the pronunciation of *happen* as [ˈxæpən]*. The speaker also replaced /ð/ with /z/ in several instances. Another error frequently occurred while /w/ was pronounced as /ʊ/. Another noticeable mistake involved the pronunciation of the vowel phoneme /i/ instead of /ɪ/. For instance, the word *limit* [ˈlɪmɪt] was pronounced as [ˈlʲimJit]*, *really* was pronounced as [ri:lʲi]*, *simple* was pronounced as [sJimpəl]*, where the speaker also palatalized consonants due to the presence of /i/ and pronounced dental /l/. Similarly, the speaker pronounced the word *need* [ni:d] with the palatalized /nʲ/. Participant pronounced post-alveolar /ʃ/ as alveolo-palatal in the word *shorter* [ʃɔ:təʳ]. *Urgent* [ˈɜ:dʒˢnt] sounded more like [ˈu(r)*dʒˢnt]* with unnecessary /r/. Another example where the speaker added an unnecessary /r/ occurred in a word *term,* pronounced as [tɛ(r)*m]*. Additionally, the speaker replaced /əʊ/ with /ɔ/ in words like *also*, pronounced as [ˈɔ:lsɔ]*, and *so*, pronounced as /sɔ/.

Figure 8 below demonstrates the most frequent mistakes: vowel substitution (ten times), unaspiration of /p, t, k/ (eight times), and /w/ substitution (seven times).

Figure 8. Participant 7 – Inter-lingual phonic errors



4.7.1 Classification of errors 7

Further are demonstrated interference errors of participant number seven according to Weinreich's (1953, 18–19) four types of phonic interference:

Under-differentiation of phonemes

The unaspirated pronunciation of /p, t, k/ consonants indicates under-differentiation of phonemes. Another example that demonstrates under-differentiation is pronouncing the word *happen* as [ˈxæpən]*, where /x/ is not a characteristic sound in English. Replacing /ð/ with /z/ in several cases is another example. Pronouncing /w/ as /ʊ/ is another instance of under-differentiation, where the speaker substitutes the English sound with a similar sound from their primary language. Replacing /əʊ/ with /ə/ also shows under-differentiation, where the speaker substitutes the English diphthong with another sound from the primary language.

Over-differentiation of phonemes

The palatalization of consonants due to the presence of /i/ represents over-differentiation of phonemes. Adding an unnecessary /r/ in certain words is an example of over-differentiation of phonemes as well.

Phone substitution

Pronouncing the vowel phoneme /i/ instead of /ɪ/ indicates phone substitution.

Reinterpretation of distinctions

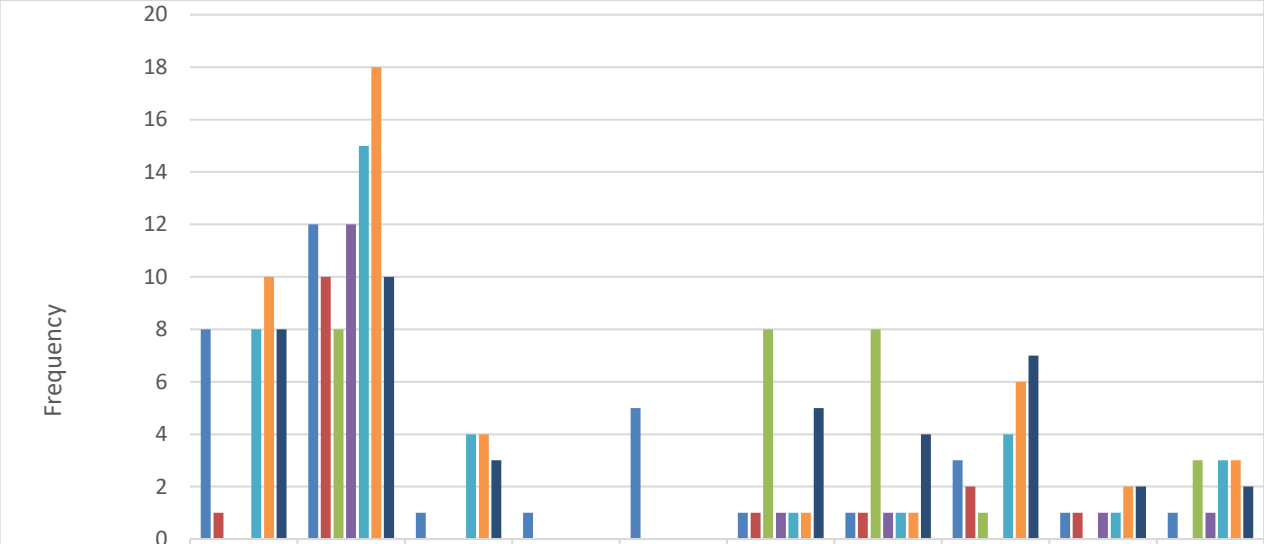
Pronouncing alveolar consonants as dental and post-alveolar /ʃ/ as alveolo-palatal are examples of reinterpretation of distinctions.

4.8 Summary

This chapter summarizes the analysed results of seven participants in comparison and demonstrates commentary on the data. The following Figure 9 provides summarized information about all interference errors that were analysed in previous chapters. Figure 9 contains such errors as unaspirated sounds, vowel substitution, trill /r/, substitution of /ð/, /θ/, devoiced consonants, dental consonants, palatalization, /w/ substitution, omission of sounds, and other mistakes. The focus was mainly on interlingual phonic interference errors.

The most frequent mistake among the speakers was vowel substitution (from eight to eighteen recorded times). The speakers tended to substitute not only specifically English phonemes, which was quite unexpected. Other quite typical errors were unaspirated consonant phonemes, which could be noticeable even in the speech of a person who consistently aspirated consonants.

Figure 9. Comparison of participants 1-7



	unaspiration of p, t, k	vowel substitution	[ð],[θ] substitution	trill [r]	devoiced consonants	dental consonants	palatalization	[w] substitution	omission	other
Participant 1	8	12	1	1	5	1	1	3	1	1
Participant 2	1	10	0	0	0	1	1	2	1	0
Participant 3	0	8	0	0	0	8	8	1	0	3
Participant 4	0	12	0	0	0	1	1	0	1	1
Participant 5	8	15	4	0	0	1	1	4	1	3
Participant 6	10	18	4	0	0	1	1	6	2	3
Participant 7	8	10	3	0	0	5	4	7	2	2

It is worth mentioning that all participants palatalized at least one consonant, and it is not surprising because for Ukrainian speakers, palatalization after /i/ may seem logical, and the difference in pronunciation is not always obvious.

Another typical error was the absent aspiration of /p, t, k/ consonant phonemes. Only two participants consistently aspirated all consonants. Aspiration is not relevant to the Ukrainian language, and the speakers tended to simplify the speech.

In terms of types of phonic interference, under-differentiation of phonemes was the most common, and there is a logical explanation for that: the English language has many distinctive phonemes that do not occur in Ukrainian. On the other hand, reinterpretation of distinctions rarely occurs due to its specifics.

Considering all the previously mentioned facts, I can state that the method of perceptual analysis confirmed my major assumptions and enabled a deeper understanding of the phonetic interference patterns exhibited by the participants.

CONCLUSION

The subject of study of the thesis was the inter-lingual phonic interference of Ukrainian speakers. The main objective was to study the sounds that were pronounced incorrectly in English words and to find the nature of those errors. The theoretical part provided key information for understanding the topic and enabling comprehension of the analysis part. The theoretical part provided key theoretical information and compared English and Ukrainian phonic systems.

The analysis part included objectives, samples, and methodology. The methodological approach included perceptual analysis used to examine the speech of seven participants. Throughout the examination of speech samples from seven speakers, various types of interference errors were identified and categorized. The analysis helped to find patterns in the speech of Ukrainian speakers of English as a second language. The first finding was the prevalent occurrence of vowel substitution errors among the participants. It was quite surprising that not only specifically English vowel phonemes were substituted. Another finding was the tendency to leave consonants unaspirated. The third pattern was palatalization, which was a consistent feature across all participants and was caused by the influence of Ukrainian phonic patterns on English pronunciation. In general, most of the mistakes that occurred were expected, with some exceptions.

Inter-lingual phonic errors were also categorized according to Weinreich's classification. The most frequent type was under-differentiation of phonemes. It is not surprising because Ukrainian and English phonic systems have noticeable differences that were demonstrated in the theoretical part. On the other hand, reinterpretation of distinctions was rare because there were very few cases when features of the English system were distinguished by features of the Ukrainian language. The only noticeable example of reinterpretation of distinctions was the pronunciation of alveolar consonants as dental. Even though palatalized consonants were pronounced as dental as well, they fell under the category of over-differentiation of phonemes because, in this case, palatalization was an additional characteristic that was not required.

To sum up, this thesis combines theoretical and practical parts and contributes a modern update on the nuances of pronunciation of the younger generation of Ukrainian native speakers. The data presented in this thesis could be potentially used for further studies.

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LIST OF ABBREVIATIONS

IPA International Phonic Alphabet

BBC British Broadcasting Corporation

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