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Bachelor Thesis

Inter-sonorant Voicing in the Speech of
Czech Learners of English

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Declaration

I hereby declare that this bachelor thesis is completely my own work and that no other sources were used for the preparation of the thesis than those listed on the works cited page.

Prague, June 2010

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Abstract

This bachelor thesis elaborates on the inter-sonorant voicing phenomenon which is to be found in Czech English. The theoretical part describes the rules for voicing changes of consonants and some of the general pronunciation rules in a wider context of connected speech in both Czech and English. Further, it gives a brief description and explanation of the origin of inter-sonorant voicing. The practical part introduces two hypotheses and provides details of the original research of inter-sonorant voicing phenomenon among Czech upper-secondary school students, as well as it presents the results in relation to the two hypotheses.

Key words

Foreign Accent, Connected Speech, Assimilation, Czech English, Inter-sonorant voicing

Anotace

Tato bakalářská práce rozpracovává jev zvaný "změna znělosti mezi sonoranty", který se vyskytuje v české angličtině. Teoretická část popisuje pravidla změn znělosti u souhlásek a některá obecná výslovnostní pravidla v širším kontextu souvislé řeči v češtině i v angličtině. Dále stručně popisuje a vysvětluje původ změny znělosti mezi sonoranty. V praktické části jsou uvedeny dvě hypotézy a je v ní popsán vlastní výzkum změny znělosti mezi sonoranty u českých středoškoláků. Výsledky výzkumu jsou poté prezentovány s ohledem na úvodní hypotézy.

Klíčová slova

cizí přízvuk, souvislá řeč, asimilace, česká angličtina, změna znělosti mezi sonoranty

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Introduction

A lot of attention has been paid to foreign accent in English so far. A number of books was written on foreign accent and related topics (R. C. Major: *Foreign Accent*, 2001, J. E. Flege: *Factors affecting degree of perceived foreign accent in English sentences*, 1988). According to Munro, foreign accent is "non-pathological speech produced by second language learners that differs in partially systematic ways from the speech characteristics of native speakers of a given dialect" (Southwood&Flege, 1999). It is very closely connected to learning a foreign language and although we live in a tolerant and liberal society where any accent is good as long as communicating individuals are able to decode each other's messages (Skarnitzl et al., 2005: 12), it is not possible to ignore it. Skarnitzl et al. say that communication is not only about understanding words, but also about commitment, acceptance and trust in the speaker (2005: 12). Foreign accent can negatively influence the communication: not only might listeners have difficulties in understanding the speech, but also the speakers might be ascribed some negative characteristics, for example lack of education or intelligence (Skarnitzl&Poesová, 2008: 8). Some believe foreign accent is something undesirable that has to be avoided, others take it as a part of one's identity and culture.

However, only very little has been explored in the field of foreign accent of Czech speakers of English. Relatively recently, a study published by Skarnitzl et al.: "Tangibility of Foreign Accents in Speech: the Case of Czech English" has proved in original research that foreign accentedness can be clearly distinguished in the speech of Czech users of English. The authors have demonstrated that Czech English is a tangible and empirical phenomenon and therefore can be subjected to further elaborations.

The theme of examining individual phenomena leading to the perception of foreign accentedness in Czech English emerged two years ago in a study by Radek Skarnitzl and Kristýna Poesová: "Typology of Voicing Changes in Czech English". The paper elaborates on various issues in voicing changes of Czech speakers of English. The authors mention only marginally a phenomenon called "inter-sonorant voicing" as one of the voicing changes in Czech English. This topic caught my interest as I have been

noticing, for a long time, the mispronunciation of words such as *basic* /**beɪzɪk**/ or *conversation* /**kɒnvə'zeɪʃən**/ even in the speech of advanced speakers of English.

My friends among native English speakers have confirmed that they perceive this feature as a trace of foreign accentedness. In addition, they have observed that it seems to be a reoccurring problem with Czech speakers of English. In my thesis, I decided to scrutinize this pronunciation phenomenon in the speech of upper-secondary school students of English.

The thesis investigates all the prototypical examples of inter-sonorant voicing (a special text was written for this purpose) that were recorded while being pronounced by a relatively big number of respondents, so the limitations of Skarnitzl and Poesová's study, small number of subjects and not enough archetypal words, have been overcome. The purpose of this new study is to prove, on theoretical grounds and through original research, that the voiceless obstruent **s** represented by the grapheme <s> between two sonorants in English words will most likely be pronounced as voiced **z** in those words that have equivalents or near-equivalents in Czech.

In the theoretical part, aspects of connected speech in both English and Czech are described with a special focus on voicing changes. Further, the main differences in assimilation of voice between the languages are illustrated. Inter-sonorant voicing in Czech English is then defined as an incorrect assimilation of voice that results from negative transfer from L1 (Czech).

The practical part aims at confirming or rejecting two hypotheses. A research providing the necessary data was carried out among upper-intermediate learners of English. The analysis of the recordings and the interpretation of the results in relation to the initial hypotheses close the work.

Theoretical Part

1. Connected speech in English

Every utterance of a word must be expected to be realized in phonetically different ways according to its context (Cruttenden, 2001: 278). There is a significant difference between the way a word is pronounced when standing alone, in isolation, and when used in connected speech where it is surrounded by other words that form a specific sound environment which can influence the pronunciation of the word in a certain way. As Cruttenden argues,

"the variations involved may affect the word as a whole, e.g. weak forms in an unaccented situation or word accentual patterns within the larger rhythmic pattern of the complete utterance; or may affect more particularly the sounds used at word boundaries, such changes involving a consideration of the features of morpheme and word junctures, in particular, assimilations, elisions and liaisons." (2001: 278)

The major aspects of connected speech, elision, linking, juncture and mainly assimilation, are illustrated in the following sub-chapters. As all transcriptions are phonemic, slant lines were not employed.

1.1 Elision

Elision is a phenomenon in connected speech that occurs when a sound which normally exists in careful speech is omitted, so there is "zero sound". In other words, elision describes the disappearance of a sound. The most common situation is when **t** and **d** become zero within a consonant cluster, for example *the next day* would be pronounced as **ðə neks dɛɪ**. Sometimes complex consonant clusters can be simplified (*she acts strange* becomes **ʃi: æks streɪndʒ**), **ə** can disappear in unstressed syllables (e.g. *potato*: **pə'teɪtəʊ** → **p'teɪtəʊ**) or **t** is replaced by the glottal stop (*football*: **fʊtbɔ:l** → **fʊʔbɔ:l**) (Underhill, 2005: 61).

1.2 Linking

Linking is a term that describes the process of connecting sounds to each other. The most frequent type is consonant-to-vowel linking. To illustrate this phenomenon, we use pseudo-resyllabification (a special technique for syllable boundary shifting): *one evening* becomes **wʌ.'ni:v.nɪŋ**. A very common type of vowel-to-vowel linking in the British standard accent is "linking r" (*far away* would be pronounced as **fa:rə'weɪ**), "intrusive r" (*law and order* becomes **lɔ:rændɔ:də**), "transient j" (*three apples* → **θri:jæplz**) and "transient w" (*two apples* will become **tu:wæplz**). There is also a consonant-to-consonant linking in connected speech, for example in *some milk*: **sʌm mɪlk** → **sʌmɪlk** (Volín, 2008: 64-66).

1.3 Juncture

Juncture describes how neighbouring phonemes are connected – it is a transition from one speech sound to the next, either within a word (close juncture between **t** and **r** in *nitrate*), or marking the boundaries between words (open juncture between **t** and **r** in *night rate*) (Poesová, 2008).

1.4 Assimilation

When a phoneme is realized differently as a result of being near some other phoneme that belongs to a neighbouring word, it is called "assimilation" (Roach, 1991: 124). In other words, assimilation takes place when a phoneme loses one or more of its features and becomes more similar to a segment next to it (Volín, 2006: 67).

Assimilation can be seen across word boundaries as well as within words. Sometimes the difference caused by assimilation is quite noticeable, and sometimes it is rather insignificant. Either way, assimilations in English are mostly affecting consonants (Roach, 1991: 124).

It is also important to mention that assimilation is something that to a large extent depends on rate and style of the utterance (Roach, 1991: 124). The more formal, the greater tendency to preserve the form of the isolate word. Therefore, assimilation is more likely to be found in rapid, colloquial speech.

Assimilation can be either regressive (anticipatory), when the phoneme is affected by the one that comes next, or progressive (perseverative), when the preceding phoneme affects the one that comes after it.

Four types can be distinguished in assimilation: assimilation of place of articulation, assimilation of manner of articulation, assimilation of voice and coalescent assimilation (or assibilation).

1.4.1 Assimilation of place of articulation

Assimilation of place is regressive only. There are three types:

- 1) **t d n** before **p b m** (alveolar becomes bilabial), *fat boy*: **fæt bɔɪ** → **fæp bɔɪ**,
 - 2) **t d n** before **k g** (alveolar becomes velar), *good girl*: **gʊd gɜ:l** → **gʊg gɜ:l**,
 - 3) **s z** before **ʃ ʒ j** (alveolar becomes palatoalveolar), *this shop*: **ðɪs ʃɒp** → **ðɪʃ ʃɒp**
- (Underhill, 2005: 60).

1.4.2 Assimilation of manner of articulation

Assimilation of manner occurs only in the most rapid colloquial speech. It is either regressive (e.g. plosive becomes fricative in *that side*: **ðæt saɪd** → **ðæs saɪd** or it becomes nasal in *good night*: **gʊd naɪt** → **gʊn naɪt**) or progressive (fricative becomes nasal in *in the*: **ɪn ðə** → **ɪn nə**) (Poesová, 2008).

1.4.3 Coalescent assimilation (Assibilation)

Coalescent assimilation (or simply assibilation) is a type of assimilation in connected speech when a new single sound is created from the original two. It typically appears in the following words: *don't you* **dəʊnt ju** → **dəʊntʃu**, *would you* **wʊd ju** → **wʊdʒu**, *bless you* **bles ju** → **blesʃu**, *as you like it* **æz ju laɪk ɪt** → **æzʃu laɪk ɪt** (Poesová, 2008).

1.4.4 Assimilation of voice - across word boundaries

Only regressive assimilation of voice can be found across word boundaries. However, the process is usually restricted to weak forms of structural words or certain

stabilized structures (Volín, 2006: 67). If the initial consonant of the following word is voiceless, the final consonant of the previous word will become voiceless too. For example, the final voiced **z** of *was* will be replaced by **s** in *he was sent* under the influence of voiceless **s** in *sent*. However, assimilation in *leave cords* **lɪ:v kɔ:dz** → **lɪ:f kɔ:dz** is illegal (Volín, 2006: 67).

It never works the other way around, it is only voicelessness that can be passed. In other words, consonants in final positions do not assimilate to their voiced counterparts in initial positions. Roach explains a typical mistake of learners of English: "When the final consonant before word boundary is fortis (voiceless) and the initial consonant after word boundary is lenis (voiced), a context in which in many languages the final consonant would become voiced, assimilation of voice never takes place [...]" and he gives the following example: *I like that black dog* is correctly pronounced as **aɪ laɪk ðæt blæk dɒg** (1991: 125). However, many foreign learners of English would in this case allow regressive assimilation of voicing and would change the final **k** of *like* to **g**, the final **t** of *that* to **d** and the final **k** of *black* to **g**. "This creates a very strong impression of a foreign accent, and is something that should obviously be avoided" (Roach, 1991: 124).

1.4.5 Assimilation of voice - within a word

Within words in English, progressive assimilation of voice is to be found. A good example is progressive assimilation of voice with suffixes **s** and **z**. As Roach describes: "when a verb carries a third person singular "-s" suffix, or a noun carries an "-s" plural suffix or an "-s" possessive suffix, that suffix will be pronounced as **s** if the preceding consonant is fortis (voiceless) and as **z** if the preceding consonant is lenis (voiced) (1991: 126). To give an example:

voicelessness:	<i>socks</i>	sɒks	voicing:	<i>pens</i>	penz
	<i>likes</i>	laɪks		<i>loves</i>	lʌvz
	<i>Nick's</i>	nɪks		<i>Dan's</i>	dænz

Volín states all the pronunciation rules for written <-s> (<-es>, <-s> and <-s'>) including pronunciation after sibilants, which is not mentioned by Roach:

- 1) <-s> is pronounced as **s** after a voiceless consonant,
e.g. *hits* **hɪts**
- 2) <-s> is pronounced as **z** after a voiced consonant,
eg. *floods* **flʌdz**
- 3) <-s> is pronounced as **z** after a vowel,
eg. *Roy's* **rɔɪz**
- 4) <-s> is pronounced as **ɪz** after sibilants **s, z, ʃ, ʒ, tʃ** and **dʒ**,
eg. *washes* **wɒʃɪz**

(Volín, 2006: 55)

The pattern described by Volín can be also applied with the verbal ending "-ed", that signals past tense and past participles, eg. <-ed> is pronounced as **t** after a voiceless consonant (*stopped* – **stɒpt**) or as **ɪd** after **t** and **d** (*waited* – **weɪtɪd**) (Volín, 2006: 57).

Both English and Czech have their specific rules for voicing changes in connected speech. It is not possible to apply the rules of one to the other, however, such phenomenon is likely to appear with Czech learners of English as a result of the negative transfer from L1.

2 Connected speech in Czech

Considering the topic of the thesis, only assimilation of voice is described in the context of connected speech in Czech language. The style of Czech transcription is taken from Palková's "Fonetika a fonologie češtiny" (1994).

2.1 Czech consonants

Consonants in Czech are divided into two groups as they are in English: non-sonorants (obstruents) and sonorants. Non-sonorants form pairs of voiceless and voiced consonants. Voiceless are: **p t ʃ k f s š ch ř c** and **č**, voiced are **b d ɖ g v z ʒ h ř dz** and **dž**. Sonorants are unique consonants, they are only voiced: **m ŋ n ŋ ň l r** and **j** (Palková, 1994: 213).

2.2 Assimilation of voice

Assimilation of voice is the most common consonant change in Czech (Palková, 1994: 328). It works on the same principles as assimilation of voice in English – a speech sound changes its voicing under the influence of the neighbouring sound, so there is a mutual adaptation of voicing. Like in English, assimilation of voice can be found within a word or across word boundaries and it is either regressive or progressive.

2.2.1 Assimilation of voice within a word

Assimilation within a word occurs between a voiced and a voiceless sound in a pair and is always regressive. For example: **s** in *prosba* will become its voiced counterpart **z** under the influence of voiced **b**, so the pronunciation will be **prozba**. Or, the other way around, **z** in *zpívát* will become its voiceless counterpart **s** under the influence of voiceless **p**, so the word will be pronounced as **spívát** (Palková, 1994: 328).

2.2.2 Assimilation of voice across word boundaries

Word-final voiced consonants become their voiceless counterparts before a pause. For instance, *než* will be pronounced as **neš**, or *soud* will become **sout**.

If there is another word immediately following with a voiced consonant in the initial position, the final consonant of the preceding word will become voiced too (regressive assimilation of voicing). Thus: *než* pronounced as **neš** when standing alone would become **než** in the phrase *než bude* under the influence of voiced **b** in *bude*. Similarly, *soud* (pronounced as **sout** when no word is following) will become **soud** in the phrase *soud začne*, because of the influence of voiced **z** in *začne* (Palková, 1994: 329).

2.3 Pronunciation of <s> in loanwords

A special and considerably problematic phenomenon in Czech is the pronunciation of loanwords, which is rather unstable, especially regarding the pronunciation of written <s> when placed between two vowels and when in the

neighbourhood of sonorants. A general tendency is to pronounce **z** (Palková, 1994: 344).

There is quite a large group of words where the pronunciation of **s** would be more suitable and more correct, according to the origin of the words, however, **z** appears instead. This group includes words like *disertace*, *renesance* or *diskuse*.

The pronunciation of **z** predominates in combinations of **s** + sonorants **m**, **n**, **r**, **l** and **j**.

The group of words that are pronounced only or predominantly with **z** (which includes for example words like *dislokace* or *disjunkce*) is significantly bigger than the group where the pronunciation of **s** should be kept (e.g. *personál*) (Palková, 1994: 344).

3. Main differences between assimilation of voice in English and Czech

Assimilation of voice in English has a lot in common with Czech assimilation (they are both prevalingly regressive), however, there are some differences. For example, word final voiced consonants in Czech would become voiceless when there is no other word immediately following. Thus *led* will be pronounced as **let**. In English, there is no such phenomenon as *bed* will remain **bed** (**d** can only be partially devoiced as it is in final position, so its allophonic variation would be [d̥]) (Cruttenden, 2001: 282).

Probably the most important difference has to do with regressive assimilation of voice across word boundaries when voicing is passed. English does not allow such assimilation, but Czech does. Therefore, *pět bodů* will turn into **pjed bodú** under the influence of voiced **b**, however, *black dress* will remain **blæk dres** since only voicelessness can be passed across word boundaries in English.

3.1 Negative transfer from L1

Negative transfer from L1 is a process of applying rules of one's mother tongue to a foreign language (Crystal, 2007: 433). Since each language has its own specifics, such process results in a mistake.

Therefore, in case of negative transfer between Czech and English regarding pronunciation and particularly assimilation of voice, *black dress* is likely to be incorrectly pronounced as **blæg dres** since Czech allows regressive assimilation of voice across word boundaries where voicing is passed. Similarly, *bed* might be pronounced as **bet** as a result of the rule in Czech pronunciation for final voiced consonants becoming voiceless when there is no other word immediately following (both phenomena are further described in chapter 3 of the theoretical part of the thesis).

Pronunciation of <s> in Czech loanwords (that is described in detail in part 2.3) also plays an important role in the negative transfer. Due to this factor, words like *dislike* or *dismiss* are likely to be mispronounced as **dr'zlak**, **dr'zmis** since they sound similar to loanwords in Czech such as *dislokace*, *disjunkce* (because of their "dis-" prefix), which are predominantly pronounced with **z**.

Last but not least, negative transfer from Czech to English in pronunciation is to a large extent influenced by the existence of Czech equivalents or near-equivalents to some English words. As a result, words like *conversation*, *sensitive* or *crisis* could be often mispronounced as **kɔnvə'zeɪʃən**, **senzitiv** and **kraizis** because there are words in Czech that correspond to them: *konverzace*, *senzitivní* and *krize*.

3.1.1 Inter-sonorant voicing in Czech English

Inter-sonorant voicing in Czech English is an incorrect assimilation of voice when voiceless obstruents placed between two sonorant sounds become voiced – typically the obstruents **s** and **ʃ** become their voiced counterparts **z** and **ʒ**. This phenomenon is a result of negative transfer from L1 (Czech) to English and especially of its last aspect that was described in chapter 3.1 – the existence of Czech equivalents or near equivalents to some English words.

This statement is backed up by the following practical part of the thesis.

4. Glossary

The following definitions of terms are simplified, all taken from Roach (1991), Cruttenden (2001), Crystal (2007) and Underhill (2005).

L1 - mother tongue, in this thesis it refers to Czech

Czech English - English pronunciation with a strong Czech accent

Phoneme - a minimal distinctive unit of sound that can change meaning

Grapheme - a minimal unit in a written language

Vowels are speech sounds that are pronounced without any obstruction to the air stream and occupy the centre of a syllable.

Consonants are speech sounds that are pronounced with a complete or partial obstruction to the air stream and occupy the edges of a syllable.

Obstruents are consonants pronounced with a partial or complete obstruction to the air stream resulting in an extreme pressure of air stream (noise component). They form pairs of voiced and voiceless sounds. They are: **p b t d k g f v θ ð s ʃ z ʒ tʃ dʒ h**.

Sonorants are consonants pronounced with only a partial obstruction to the air stream. They are voiced and in many aspects similar to vowels. They are: **n m ŋ l r j w**. Vowels also belong to this group.

Voicing

A consonant can be either voiced if the articulation of the sound involves the vibration of the vocal folds, or voiceless, if it does not.

Practical Part

In this part of the thesis, a research on inter-sonorant voicing phenomenon that was carried out among upper-secondary school students is described. The results are interpreted in relation to two original hypotheses. The English language teachers from Gymnázium Jaroslava Seiferta, where the recording took place, will be informed about the results, so that they get feedback on the performance of the students.

Two hypotheses were formed for this thesis:

- 1) The voiceless obstruent **s** between two sonorants will be pronounced as voiced **z** by more than half of the respondents in some words.
- 2) Inter-sonorant voicing will be found more often in words that have their equivalents or near-equivalents in Czech than in those that have not.

5. Method

Fourteen upper-secondary school students of English were recorded while reading out an intermediate level text written exclusively for this purpose. The text was printed in sufficiently large fonts (Times New Roman 14 pt), accompanied by a relevant picture for a better illustration. The students had enough time prior to the recording to read the text through and possibly prepare difficult passages if they felt there were any. The text corresponded to approximately two minutes of speech per speaker.

The recordings were made in a small classroom (unfortunately no soundproof booth was available) with Edirol by Roland recorder (R-09HR 24 bit 96 kHz WAVE/MP3 RECORDER Ver. 2.0) and digitized at the sampling rate of 48 kHz. No recordings were later excluded. Audacity software (free audio editor and recorder) was used for listening and further analyses.

The text included twenty English words that were likely to be mispronounced by the respondents. All the words contained the sound **s** between two sonorants. Ten out of these twenty words have their equivalents or near equivalents in Czech. The words were:

English word	Czech equivalent or near equivalent
university	univerzita
also	-
responsible	-
person	persóna, personál (pronounced with z)
seriously	seriózní
basically	bazálně, báze
disappoint	-
consistent	konzistentní
anniversary	-
conversation	konverzace
closer	-
sensitive	senzitivní
disorder	-
nervousness	nervozita
increasing	-
conservative	konzervativní
insist	-
dismiss	-
crisis	krize
disappeared	-

Table 1. List of words with potential changes of voicing in the inter-sonorant position used in the text for recording and their equivalents or near equivalents in Czech.

The words from Table 1 were incorporated in the following text:

Jane was sitting one evening in her room and thinking about where to go to study after her school leaving exams. She was sure she wanted to go to *university* and *also* that she wanted to stay in Prague. Because she was a very *responsible person*, she decided to take this matter *seriously*. *Basically*, she knew she would enjoy studying medicine, but she didn't want to *disappoint* her parents, whose ideas were not at all *consistent* with hers. They simply wanted Jane to study law. She knew she had to decide quickly, because soon there was going to be her parents' 25th year wedding *anniversary* party and the family would start a *conversation* on this topic there. The day of the party was

coming *closer* and because Jane was a very *sensitive* girl, she felt the *disorder* in her head while her *nervousness* was *increasing*. She was afraid her *conservative* father would *insist* on sending her to the Law faculty and *dismiss* her preferences. In the end, when the moment of *crisis* came, all her fears *disappeared*, because ...

Each of the 14 extracts was subjected to an independent analysis of the respective words by the author three times and the words were searched for inter-sonorant voicing phenomenon. The results were transferred to and processed in the Microsoft Office Excel programme.

5.1 Respondents

The respondents were fourteen students of "Sexta" and "Septima" (6th and 7th year) of *Gymnázium Jaroslava Seiferta, o.p.s.* – a general 8-year private grammar school in Prague, established in 1991. The students were recorded during their English language conversation lessons within two days. The level of English of the respondents was upper-intermediate, both years have had three standard English language lessons and two English conversation lessons a week in the current school year.

The recording was anonymous, however, the respondents were asked several questions:

1. How old are you?
2. How long have you been studying English?
3. Have you ever lived in an English-speaking country for more than 6 months?
4. Have you lived in a family with a native English speaker?

The group of students was formed by four males and ten females. Their average age was 18 (the range was 17 – 20) and average length of learning English language in the group was 10 years. None of the students have spent more than 6 months in an English-speaking country and only one student (respondent no. 1) has lived in a family with a native English speaker. The data show that the respondents formed a rather homogeneous group.

The following table shows the data collected about the respective subjects:

	sex	age	number of years studying English	residence in an English speaking country	presence of a native speaker in the family
respondent no. 1	female	20	17	no	yes, American step father
respondent no. 2	female	20	8	no	no
respondent no. 3	male	18	12	no	no
respondent no. 4	male	18	9	no	no
respondent no. 5	male	18	14	no	no
respondent no. 6	female	18	9	no	no
respondent no. 7	male	18	8	no	no
respondent no. 8	female	17	10	no	no
respondent no. 9	female	18	12	no	no
respondent no. 10	female	17	8	no	no
respondent no. 11	female	16	9	no	no
respondent no. 12	female	17	9	no	no
respondent no. 13	female	18	9	no	no
respondent no. 14	female	17	9	no	no

Table 2. Data collected from the respondents.

6. Results

There were twenty words with voiceless obstruents between two sonorants in one recording, and the number of the recordings was fourteen. Therefore, 280 potential items in total were analyzed for inter-sonorant voicing. The list of the words, arranged according to the number of mispronunciations, is given in Table 3. Correct pronunciation, transcribed in accordance with Wells' "Longman Pronunciation Dictionary", and the number of instances in which the words were pronounced incorrectly is also provided. British pronunciation served as a point of reference.

word	correct pronunciation	no. of mispronunciations (maximum: 14)
conversation	kɒnvə'seɪʃən	14
conservative	kən'sɜ:vətɪv	11
sensitive	sen'sɪtɪv	11
university	ju:nɪ'vɜ:sɪti	11
crisis	kraɪsɪs	10
dismiss	dɪ'smɪs	10
basically	beɪ'sɪkli	9
disappeared	dɪ'seɪpəd	6
disappoint	dɪ'seɪpɔɪnt	6
anniversary	ænɪ'vɜ:sɜ:ri	5
consistent	kən'sɪstənt	5
disorder	dɪ'sɔ:də	5
closer	kləʊsə	4
increasing	ɪn'kri:ʃɪŋ	4
insist	ɪn'sɪst	2
responsible	rɪ'spɒnsəbl	2
seriously	sɪəɪəsli	2
nervousness	nɜ:vəsnes	1
person	pɜ:sn	1
also	ɔ:lsoʊ	0

Table 3. List of words with potential changes of voicing in the inter-sonorant position, their correct pronunciation and the number of their mispronunciations.

The results show that there was one word that was pronounced correctly by all speakers (*also*), one word that was pronounced incorrectly by all speakers (*conversation*) and the rest of the words were pronounced correctly only by some speakers. A change of voicing from a voiceless consonant **s** that became its voiced counterpart **z** occurred in 119 out of 280 potential cases. The fourteen speakers themselves quite differed from each other regarding the number of mispronunciations, as it is shown in the following graph. The average number of incorrect pronunciations was nine (the maximum was fourteen) .

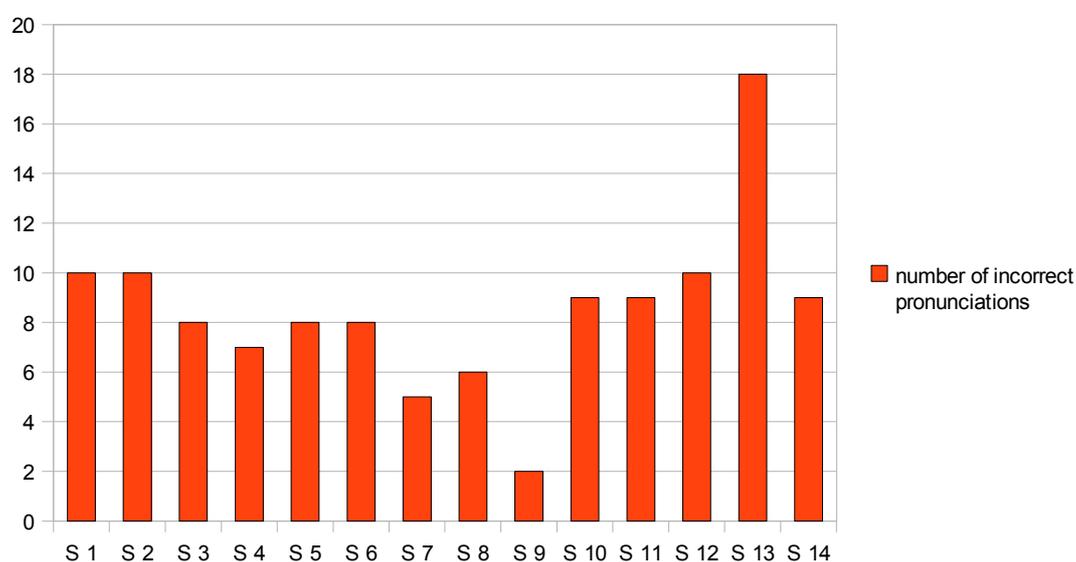


Figure 1. Number of incorrect pronunciations with individual speakers (students).

No tendencies or relationships were found between gender, age or years of studying English and the number of mispronounced words. The only respondent that has lived in a family with a native English speaker did not show any advantage. The two most extreme results appeared with the respondent number 9 (only 2 mistakes) and the respondent number 13 (18 mistakes). They were both 18-year-old females, and the difference in the length of studying English between them was just 3 years.

It would be interesting to compare the results of this research with overall study results of the individual students. Unfortunately, relevant data were not available.

The respective words differed from each other significantly according to how many times they were mispronounced, as it can be seen in Table 3. To find some tendencies in these results, two different groups of words must be described separately – group no. 1: words, which do not have their equivalents or near equivalents in Czech, and group no. 2: words with Czech equivalents or near equivalents.

Group 1: words without equivalents	Group 2: words with equivalents
also	basically
anniversary	conservative
closer	consistent
disappeared	conversation
disappoint	crisis
dismiss	nervousness
disorder	person
increasing	sensitive
insist	seriously
responsible	university

Table 4. Words used for recording divided into two groups according to whether they have equivalents (near equivalents) in Czech or not.

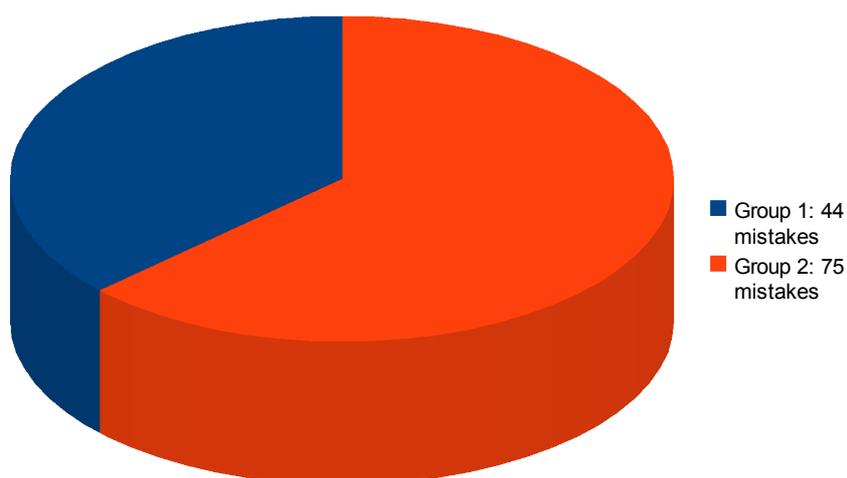


Figure 2. Distribution of inter-sonorant voicing occurrence (pronunciation mistakes) between two groups: words without Czech equivalents (Group 1) and words with Czech equivalents (Group 2).

There is notably higher occurrence of pronunciation mistakes in Group 2. Namely, the words *conversation*, *university*, *sensitive*, *conservative*, *crisis*, and *basically* were mispronounced by more than half of the students, since their Czech equivalents are very common words used in everyday language (probably except the equivalent for *basically*). The word *conversation* was pronounced incorrectly by all fourteen respondents.

On the contrary, words that belong to Group 1 were usually pronounced correctly (less than half of the students made a mistake in them). There was one interesting exception – inter-sonorant voicing occurred ten times in the word *dismiss*, which has no equivalent in Czech. This seems to be the effect of Czech pronunciation rules for loanwords including grapheme <s>, described earlier in chapter 2.3 of the thesis. In Czech, pronunciation of **z** predominates in combinations of **s + m, n, r, l** and **j**. Such rule is applicable to the word *dismiss*. Also, the other words with "dis-" prefix were mispronounced by almost half of the speakers. It seems that Czech rules play their role here as well since these words sound similar to Czech words such as *dislokace* or *disjunkce*, which are pronounced only or predominantly with **z**.

The results in both groups (especially in Group 2, though) clearly show that there is intensive negative transfer from respondents' L1 (Czech) to English.

Conclusion

The thesis investigated the inter-sonorant voicing phenomenon that occurs in Czech English. Specifically, it focused on the voiceless obstruent **s** which, when between two sonorants, may become its voiced counterpart **z** under the influence of L1.

As far as the two initial hypotheses are concerned, they both proved to be right. The number of words which were mispronounced by more than half of the respondents was seven. It shows that not only is inter-sonorant voicing indeed a common phenomenon in Czech English, but it also proves that there actually are words which are predominantly pronounced by Czech learners of English in their incorrect form .

The second hypothesis, that inter-sonorant voicing will be found more often in words that have their equivalents or near-equivalents in Czech than in those that have not, was also confirmed since 63% of the mispronounced words belong to the former group, and only 37% to the latter.

Apart from the influence of Czech equivalents with voiced sounds in inter-sonorant position, that has already been revealed in the study by Radek Skarnitzl and Kristýna Poesová: "Typology of Voicing Changes in Czech English", another linguistic tendency was discovered. Inter-sonorant voicing seems to be governed also by the Czech pronunciation rules for written <s> in loanwords. Its pronunciation in these words is not stable, mainly when the grapheme is placed between two vowels and when in the neighbourhood of sonorants. A general tendency in Czech is to pronounce **z** in such cases. Since some English words might sound similar to Czech loanwords (for example *dismiss* reminds of Czech *dislokace* or *disjunkce*, pronounced with **z**, because of the "dis-" prefix), Czech learners tend to introduce the rules of their mother tongue.

No tendencies were found regarding the connection between the number of mispronunciations and the age of the respondents or the length of their English language studies. It must be admitted, however, that the results were limited by the fact that the sample of respondents was not enough diverse to trace such patterns (only the 6th and the 7th years were examined – these groups of students do not differ from each other much, either in terms of English language skills or age). It is also important to mention

that majority of the subjects were females (10 out of 14), so it was not possible to compare the results according to gender.

Last but not least, the research was conducted at a rather prestigious private grammar school, which is also an important factor as a certain level of entry capabilities and predispositions are expected from the students. Therefore, the results might be slightly better than those that would come out of a research at a casual public upper-secondary school.

Recommendations

To eliminate the occurrence of the inter-sonorant voicing phenomenon with Czech learners of English, it is necessary that English language teachers are aware of this problem. The earlier they notice the mistake, the more successful they can be in unteaching it. The teachers should be encouraged to focus more on teaching pronunciation and to correct the students if they hear a mispronounced word, especially when it might be a consequence of introducing rules for assimilation typical for their own native language.

Further Research Suggestions

This research focused only on one aspect of much wider and more complicated phenomenon – Czech English as a foreign accent. Further studies are needed for sufficient description and analysis of all pronunciation problems of Czech learners of English. Furthermore, it needs to be found out to what degree the individual types of pronunciations mistakes contribute to the perception of foreign accentedness of Czech English by native speakers.

Apart from the pronunciation problems regarding consonants (inter-sonorant voicing of **s** and wrong assimilation of voice in general, final **ŋ** at a morphemic boundary pronounced as **ŋk**, **θ** and **ð** replaced by **dz** or **d** and **t**, **w** interchanged with **v** etc.), other areas will have to be analyzed. Those are vowels (for example neutralizing **æ** to **e** or adding **r** after vowels where it is not pronounced in RP), intonation (eg. flat pitch range that is typical for Czech speakers of English) and rhythm (insufficient

reduction of the length of vowels in words like *considerable*, for instance) (Skaličková, 1982: 185-190). Only through deep analyses of the respective pronunciation problems can Czech English be thoroughly described and firmly understood.

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Appendix

A compact disk with the recordings that were made for the research is attached to the thesis.